EXCAVATIONS AT NO. 41 ST. GEORGE'S STREET, CANTERBURY, 1985*

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with contributions by

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PART I: THE EXCAVATION

INTRODUCTION

Excavations commenced at the rear of no. 41 St. George's Street, Canterbury during the summer of 1985 and were completed in the autumn of the same year before the redevelopment of the area by the new owners of the adjacent building, C & A Limited.

The main area of the excavation covered an area of *c.* 207 sq. m. with a smaller machine-cut extension to the north. Natural brickearth lay some 3.10 m. below the surface of the concrete raft of Period 5 (the 1985 ground surface). Of these stratified deposits, the top 1.60 m. was removed by machine, at the commencement of the excavation, in order to accelerate the excavation of earlier deposits.

Period 1 up to *c.* A.D. 400 (Figs. 3 and 4)

This period has been divided into two parts as follows:

Period 1i (up to *c.* A.D. 150). A deposit of Belgic/early Roman topsoil, where it survived truncation, was cut by one large and numerous small clay-extraction pits, a scatter of post- and stake-holes and a slot.

Period 1ii (*c.* A.D. 150 to *c.* A.D. 400). Clay-extraction pits continued to be cut throughout this period. A scatter of post-holes and a few short slots were excavated.

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Period 1i up to c. A.D. 150 (Fig. 3 and Pl. I)

THE BURIED ROMAN 'TOPSOIL'

The majority of Period 1i features, over the southern half of the excavation, cut directly into the natural brickearth; the Belgic/early Roman layers having been stripped off during this period. To the north, this topsoil (540, 681) survived to a depth of 15 cm. where it overlay the majority of Period 1i pits and post-holes. It was comprised of very clayey pale buff loam. Over a small area, in the east corner of the excavation, the topsoil was overlaid by three layers of clayey loam with high brickearth content, totalling 22 cm. in depth (520, 321, 532).

POST AND STAKE-HOLES AND SLOT

Due to considerable destruction by medieval pits, the pattern of post- and stake-holes cannot be rationalised. They were filled with yellow to grey, very clayey loam with no evidence of packing material.

Slot 639, backfilled with yellow brickearth and grey clayey loam was 25 cm. deep. Its association with numerous stake-holes in adjacent areas may suggest the remains of a flimsy timber structure, but not enough remains for any certainty and no floor levels were apparent.

PITS

Thirteen small pits and one large pit were located. These varied in depth from 18 cm. to 60 cm. and were probably cut as brickearth quarries. The largest (577) was 60 cm. in depth and, like the majority of smaller pits, contained a backfill of orange to grey very clayey loam, with much brickearth (597). The lower levels of the backfill (597D, 597E) contained charcoal flecks, burnt daub, occasional oyster shells, frequent pottery sherds, and a hob-nail sole indicative of rubbish disposal within the abandoned quarry pit.

DATING SUMMARY

Very few sherds of Belgic pottery were located from Period 1i contexts or indeed from any later contexts. The majority of post-holes and pits contained no datable finds or pottery. Pits 572, 577 and layer 520 contained late-first to early/mid second-century sherds. Layer 579, part of the backfill of pit 577, contained a coin of Caracalla

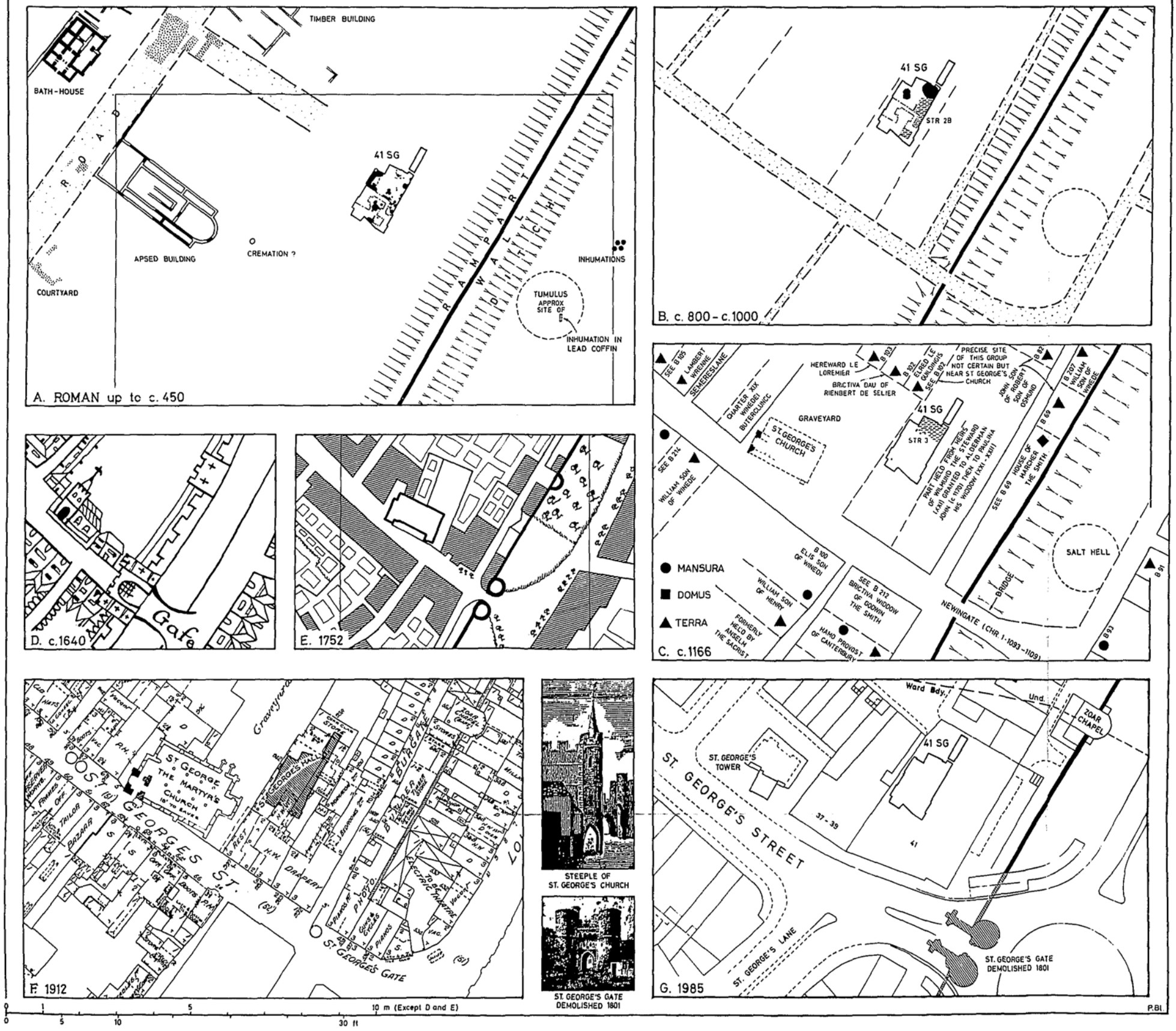

Fig. 1. No. 41 St. George's Street: The topographical development of the St. George's area: A. Up to *c.* A.D. 450; B. *c.* 800 to *c.* 1000; C. *c.* 1166 based on Urry (1967); D. Part of C.A.L.C. Map 123 *c.* 1640; E. Part of may by W. and H. Doidge (1725); F. Part of Goad Insurance Map 1912; G. Based on Ordnance Survey, 1971.

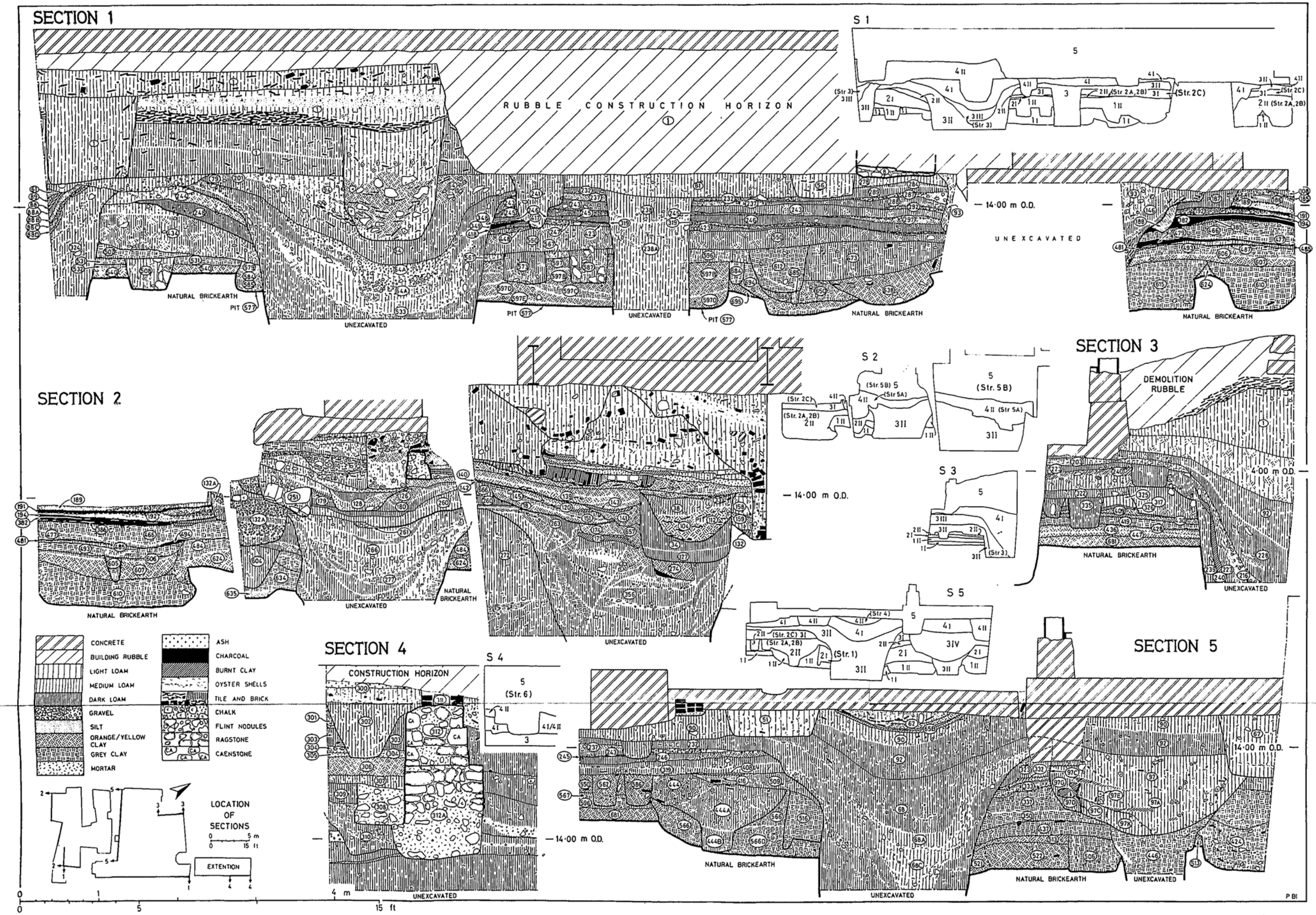

Fig. 2. No. 41 St. George's Street: Sections.

(A.D. 198–199) suggesting that this pit was still being backfilled in Period 1ii and indeed may have been cut towards the very end of Period 1i. One of the layers within this pit also produced a first-century copper alloy ear-ring. Most of the Period 1i stratigraphy was either sealed or cut by levels dated to Period 1ii.

CONCLUSIONS

During Period 1i a series of scattered post- and stake-holes, a gully and clay-extraction pits were cut directly into the natural brickearth, suggesting that truncation had occurred at some time during Period 1i.

The lack of Belgic pottery indicates that the area lies well outside the limits of Belgic settlement. Early Roman activity was limited to brickearth quarrying and refuse disposal.

Period 1ii c. A.D. 150 – c. A.D. 400 (Fig. 4 and Pl. I)

As with the previous period, the scatter of post-holes and pits make little coherent pattern, due to the removal of large areas of stratigraphy by later pits. The sequence will, therefore, be described in blocks with an attempt to tie areas together by broadly contemporary layers.

THE SEQUENCE

During the early part of Period 1ii pit 577 continued to be backfilled. Once this process had been completed the pit was sealed by a deposit of orange-yellow and grey-buff mottled clayey loam (565, 596) up to 10 cm. thick. This was cut by post-holes 588, 592, 593 and 595, with predominantly mid to dark grey clayey loam fills; 588, containing a well-defined socket, was 40 cm. deep. Elsewhere in this area other broadly contemporary features include pit 638, small post-holes 627, 628, 640, 641, 685, 686, pit 518 (containing layers of clayey loam with much charcoal, burnt clay lumps and oyster shells), pit 582, post-holes 575, 508 (with a backfill containing Roman tile and flint nodule packing, 50 cm. deep) and 555.

In other areas a layer of buff, brickearthy loam (440, 441, 447, 523, 624) was cut by post-holes 438, 439, 500, 602, 616, 626 and pits 502, 609, 613, 618, 620, 623, 633 and 634. Amongst the objects located in these pits was a copper alloy ear-scoop (Fig. 14, no. 22) and a pair of hob-nail shoes from pit 502, and a melon bead (Fig. 34, no. 116) from the backfill of pit 613. Other features probably relating broadly to this period of activity include post-holes 510, 621, pits 511, 522 and 570 and slot 625.

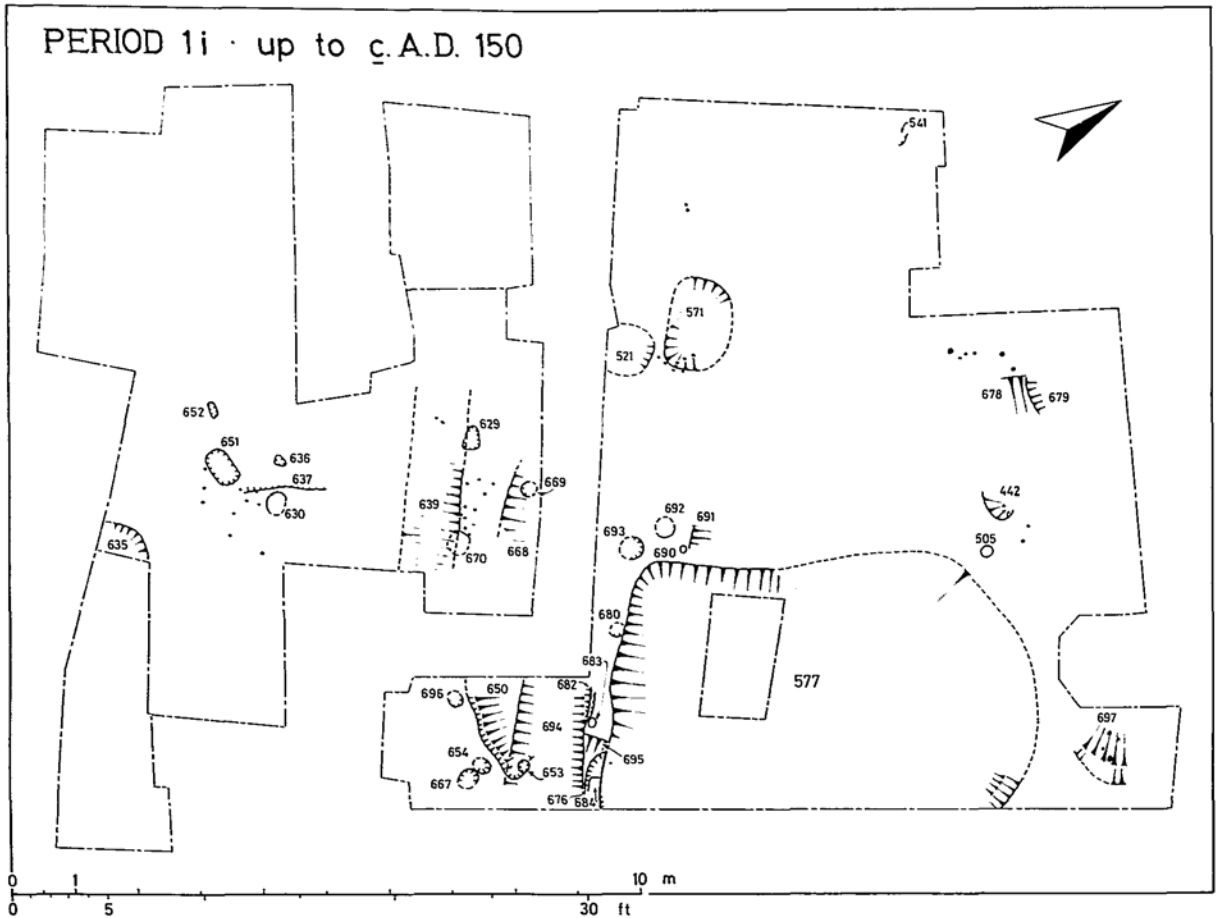

Fig. 3. No. 41 St. George's Street: Plan of Period 1i, up to *c.* A.D. 150.

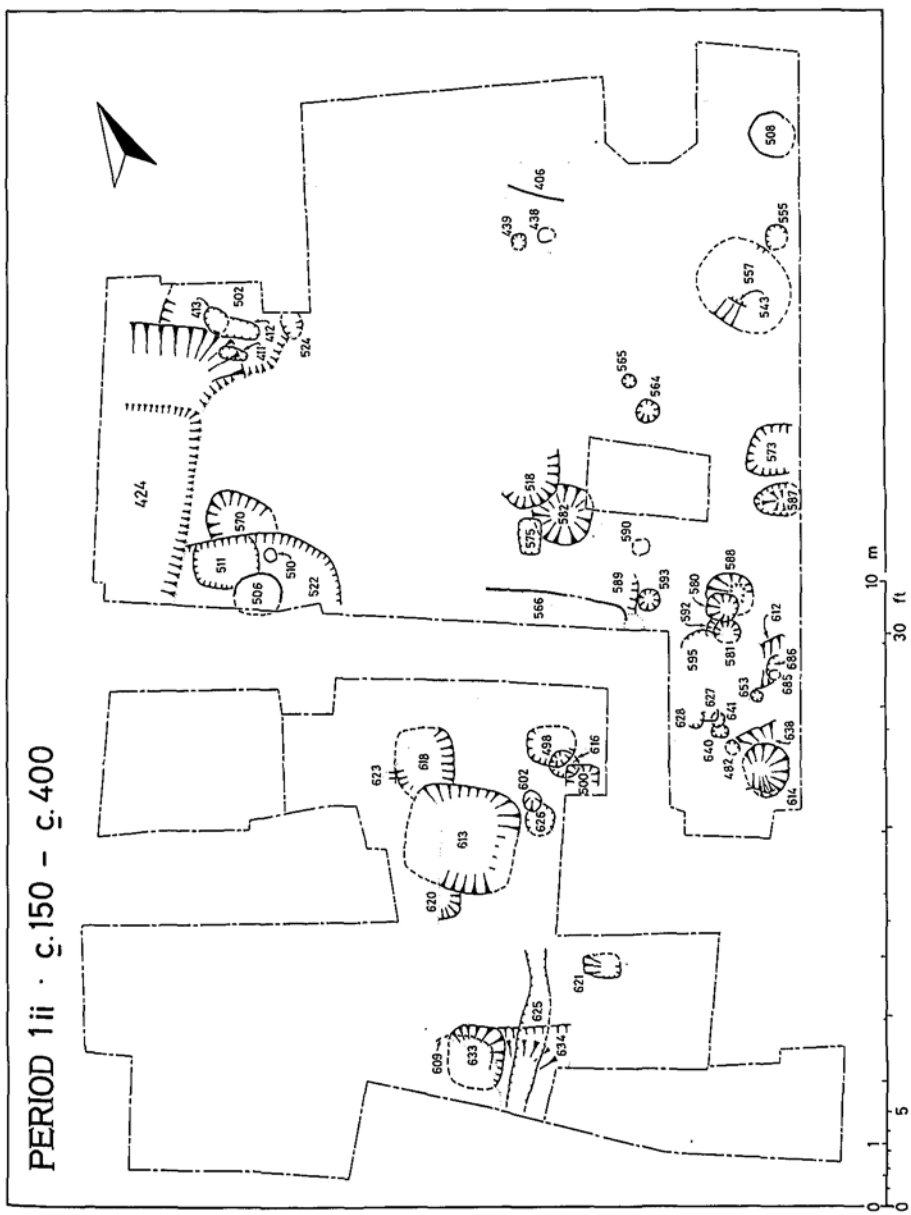

Fig. 4. No. 41 St. George's Street: Plan of Period 1ii, *c.* 150 to *c.* 400.

Over certain areas these features were sealed by deposits of grey-brown brickearthy loam (429, 484, 513, 567 and 569). Features cutting these layers include pits 406, 506, 557 and 566 and post-holes 564, 565, 573, 580, 581, 587 and 590. Two of these (573 and 587) contained flint nodule packing and were 40 cm. and 50 cm. deep, respectively. Other patchy clayey loams were deposited over small areas.

The latest features of this period consisted of post-holes 482 and 524, pits 424, 498, 612 and slots 411, 412 and 413. Of these, 412 and 413 contained many burnt daub lumps bearing wattle impressions. The backfill of pit 424 included an iron artillery bolt-head (Fig. 23, no. 66).

THE PITS

These were of similar dimensions to the pits of Period 1i and ranged from 8 cm. to 80 cm. in depth, averaging around 36 cm. They were probably all originally excavated for the quarrying of brickearth. Large pit 424 had a stepped profile and, as with pit 502, contained much pottery and general rubbish in the form of oyster shells, Roman brick fragments, charcoal flecks and animal bones. Other pits contained a cleaner backfill of brickearthy loam.

DATING SUMMARY

The majority of the earliest post-holes and pits of Period 1ii either cut into the natural brickearth or into Period 1i stratigraphy. Much of the pottery within these features was of residual late first- to early second-century date.

Pit 502 produced mid second- to third-century sherds, with some late third- to fourth-century fragments in the latest backfill. Pit 614 produced a coin of the House of Constantine (A.D. 345–348) and was sealed by clayey loam 473, which itself yielded sherds of fourth-century date and a residual second-century copper alloy brooch (Fig. 14, no. 18). A coin of Constantius II (A.D. 330–335) came from the latest backfill of pit 424 and the layer sealing this pit produced a further coin of Constantius II (*c.* A.D. 350–*c.* A.D. 360) and fourth-century pottery. Pottery of fourth-century date was also recovered from the backfill of pit 498.

The stratigraphy of this period was sealed and in places cut by activity of Periods 2i and 2ii.

CONCLUSIONS

Activity of Period 1ii was limited to clay extraction, subsequent rubbish disposal and the cutting of post-holes perhaps for fence lines. Despite the presence of gully 625 and a few short slots, no certain traces of timber-buildings were apparent. The area probably remained as open ground throughout Period 1ii.

The excavated area lay too far back from the defensive circuit, thrown up around the town in A.D. 275, to pick up the tail of the rampart. No trace was located either of an intra-mural street, or the Roman street running to the south-east from its intersection with the south-west/north-east street 60 m. north-west of the excavation. This street must, therefore, have terminated some distance short of the excavation (Fig. 1).

Negative evidence was also produced regarding the early Roman cemetery in the St. George's area.[1]

Period 2 c. 400 to c. 1000 (Figs. 4 and 5)

This period has been divided into two parts as follows:

Period 2i (*c.* 400 to *c.* 600). Sparse activity included a few rubbish pits and a sunken-featured building (Structure 1).

Period 2ii (*c.* 600 to *c.* 1000). Three phases of activity were identified. Initially a period of clay quarrying, over a limited area, several other small pits and a gully/cess-chute; the construction of a timber industrial building (Structure 2A); the modification or rebuilding of this industrial building (Structure 2B). A series of hearths and three large rubbish pits were located in the yard adjacent to the building.

Period 2i c. 400 to c. 600 (Fig. 5)

Activity during Period 2i was sparse, but included one sunken-featured structure (Structure 1), two pits and a thin deposit of clayey loam.

THE SUNKEN-FEATURED STRUCTURE – STRUCTURE 1 (Fig. 5, Pl. II)

One end of this structure survived. It consisted of a sunken area, 60 cm. in depth, with a large post-hole (525) situated centrally along the

[1] J. Pilbrow, Discoveries made during Excavations at Canterbury in 1868', *Archaeologia*, xliii (1871), 120, sites 14 and 15.

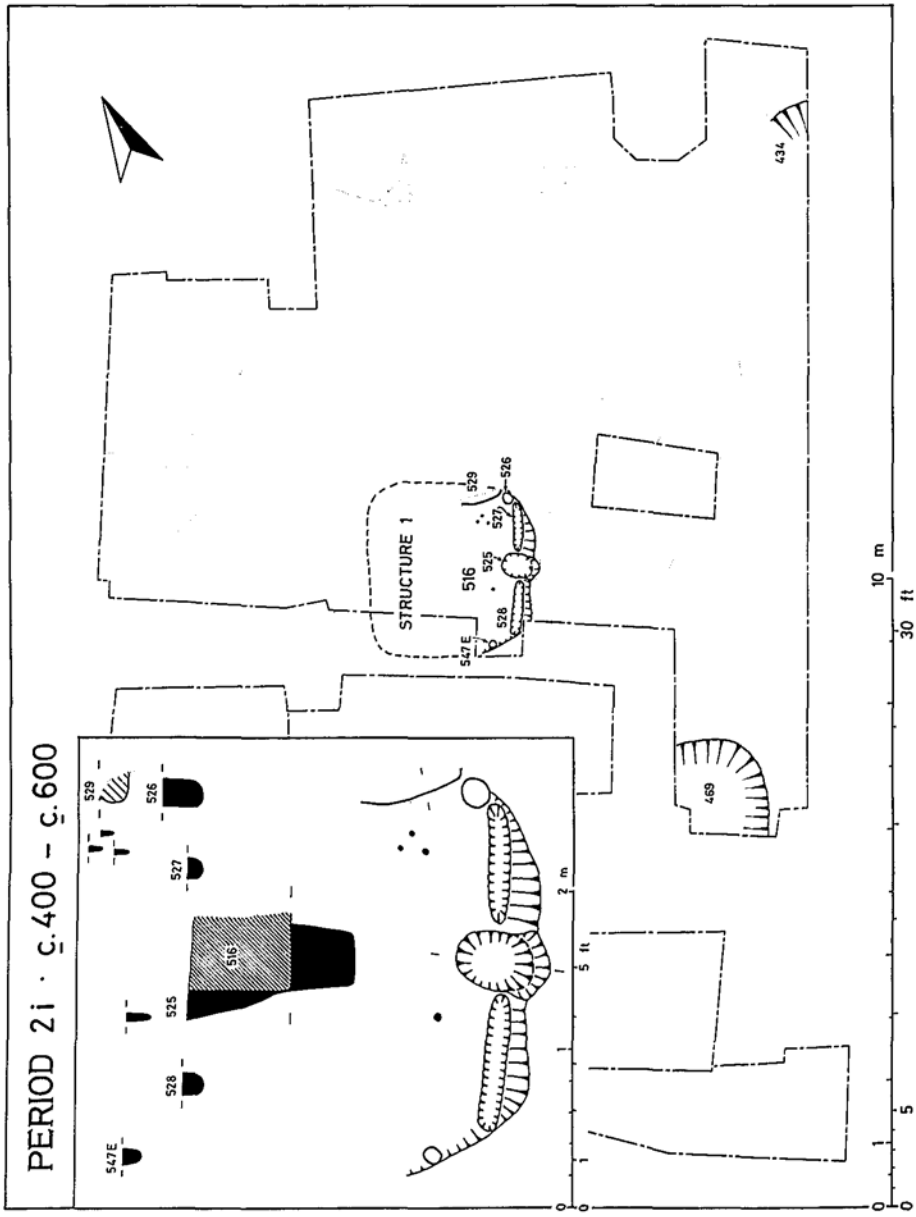

Fig. 5. No. 41 St. George's Street: Plan of Period 2i, *c.* 400 to *c.* 600, with inset of Structure 1.

surviving edge. This post-hole had been cut from the top of the sunken area and extended a further 40 cm. below the base. It was flanked by two slots (527, 528). Two small post-holes (526, 547E) and four stake-holes also cut the base of the structure. Feature 529 may represent an earlier pit. It contained a backfill of dark grey stony clayey loam with charcoal and burnt daub inclusions.

The backfill of the sunken area (516), and the features contained within, was of uniform dark grey clayey loam with a few oyster shell fragments, indicative of rapid backfilling. This contained a bone pin-beater (Fig. 26, no. 94).

It is assumed that the surviving part of the sunken area represented one gable end of the structure, large post-hole 525 forming one of the gable posts. The linear features are interpreted as foundation slots for vertical planking or wattle hurdles supporting the edge of the structure. The maximum length of the building would be *c.* 2.50 m. This would create a roughly square building. The base of the structure was cut into the natural brickearth and would have formed a solid floor. No trace of any occupation deposits was present on the base of the sunken area.

THE PITS

Elsewhere in the northern area, two broadly contemporary pits (434, 469) were excavated. Pit 434 contained mid-brown fine loam with frequent burnt clay lumps and charcoal flecks in its 30 cm. deep backfill, whilst 469, backfilled with yellow brickearth mixed with burnt clay lumps, charcoal flecks and grey brickearth, was 75 cm. deep. Both appear to have been rubbish pits.

THE LAYERS

Pit 469 was sealed by a deposit of grey loam containing chalk flecks and buff brickearth lumps (397). Elsewhere two patchy layers (419, 448) of grey-brown clayey loam were deposited. These contained charcoal fragments and burnt daub lumps.

No true 'dark earth' deposits were deposited in Period 2i, although the underlying clayey stratigraphy and brickearth (in some case only 30 cm. below the Period 2i horizon) may have contributed in producing a more clayey loam than is usually encountered in contexts of this date elsewhere in the city. Deposits of Period 2i were, indeed, very patchy and none were present in the southern half of the excavation. This strongly suggests that truncation may have occurred during Period 2ii (see below).

DATING SUMMARY

Structure 1, pits 434, 469 and layers 339, 419 and 448 contained fifth- or sixth-century pottery. Structure 1 and the pits cut directly into Period 1ii stratigraphy where present. All Period 2i stratigraphy was sealed during Period 2ii.

CONCLUSIONS

Period 2i activity was sparse, representing one structure and two rubbish pits. As has been suggested above, there was little surviving stratigraphy in the southern part of the excavation, perhaps indicating truncation during Period 2ii.

Period 2ii c. 600 to c. 1000 (Fig. 6)

Period 2ii commenced with the digging of clay-extraction pits and a gully or cess-chute. These features were later backfilled and sealed by working floors, possibly within an 'industrial' timber structure which was to continue throughout Period 2ii into Period 3.

THE CLAY-EXTRACTION PITS (Table 1)

These were confined to the southern half of the excavated area. Pits 610, 615, 619 and 622 had been cut for the extraction of brickearth. The backfill of the pits was of grey brickearthy loam containing oyster shells, charcoal flecks and occasional burnt daub lumps indicative of rubbish dumping. Pits 497 and 611 may also belong to this phase of activity.

TABLE 1: TABLE OF PERIOD 2ii PITS

Pit number	Depth (cm.)	Pit number	Depth (cm.)
248	300 P	535	60
313	50 NB	591	25
318	92 P	610	74
480	22	611	50 NB
492	50	615	75
497	18	619	70
530	20	622	37

NB – not bottomed; P – probed to base.

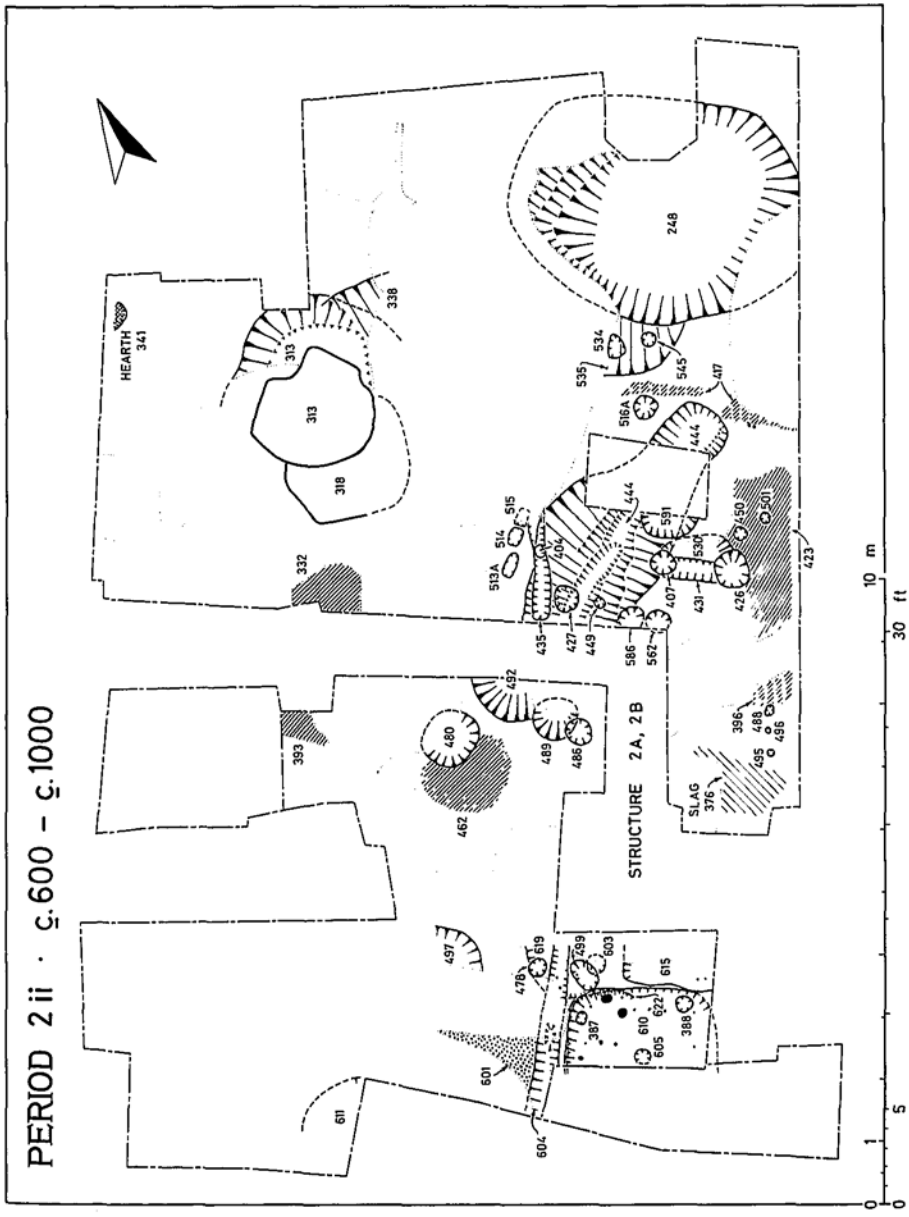

Fig. 6. No. 41 St. George's Street: Plan of Period 2ii, *c.* 600 to *c.* 1000.

GULLY/CESS-CHUTE 444

This feature varied in depth from 44 cm. at its north-east end, to 100 cm. at its south-west end, with edges that had been severely weathered before backfilling was completed. The lower fill was of mid grey-brown clayey loam, while the latest backfill contained frequent burnt daub and charcoal flecks.

RUBBISH PIT PRECEDING STRUCTURE 2A

A shallow rubbish pit (530) was excavated adjacent to gully 444.

STRUCTURE 2A

Dumps of brickearthy loam (606, 607) sealed the subsidence hollows into the backfilled clay quarries. Three post-holes (499, 603, 605) were overlaid by a dump of grey clayey loam (493). This may also have been laid as a levelling layer and a rough 'floor'. It was cut by post-hole 478 and covered by thick spreads of charcoal (487, 494). A layer of grey clayey loam with charcoal flecks and burnt daub lumps (485) overlay the charcoal, and was in turn sealed by a thick layer of buff brickearth and a spread of charcoal (479).

These deposits seem to represent working surfaces within an industrial structure.

Pebble spread 601, possibly a yard surface, may have been contemporary with this phase of Structure 2.

The working floors were sealed by dumps of grey brickearthy loam (466, 477) up to 25 cm. deep.

Over the northern part of the excavation, the deposits within Structure 2A were not deeply stratified.

The earliest features of Period 2ii consisted of three post-holes (513A, 514, 515) sealed by a layer of grey clayey loam. This was cut by slot 435, 30 cm. deep. Post-holes 449, 516A, 545 and 488, 495, 496, together with slot 431, were also stratigraphically early in the sequence, as was a working floor of flints bounded by heavy iron panning (376), 8 cm. deep. Post-holes which may belong to either Structure 2A or later Structure 2B include 562, 586 and 591. Post 516A and the surrounding stratigraphy were sealed by clayey loams containing oyster shells, burnt daub lumps and charcoal flecks. Pit 535 cut these layers, which were probably equivalent to the layers sealing Structure 2A in the southern area of the excavation

A shortage of timber slots might suggest that this structure was predominantly based on ground-beams. Subsequent removal of the

surrounding stratigraphy by medieval pits has prohibited any interpretation of the plan of this structure.

STRUCTURE 2B

This phase of Structure 2 consisted, initially, of post-holes 387, 388, 535; a scatter of stake-holes and slot 604, 50 cm. deep, cutting layer 466 which sealed Structure 2A. Slot 604 may represent the ground plate of a timber wall. Also contemporary with this phase of Structure 2 was pit 480, possibly pit 492 and two post-holes (486 and 489). These were sealed by patchy layers of grey and yellow brickearthy loam containing charcoal flecks and burnt daub lumps. The burnt brickearth base of a hearth (467) sat over these layers. It was sealed by a thin spread of charcoal capped by a further, more substantial, hearth base (462). Nearby, two layers of burnt brickearth represented another contemporary hearth base (393). Hearth base 462 was sealed by a spread of grey loamy clay (392), which contained a residual copper alloy ansate brooch of probable eighth-century form (Fig. 14, no. 25).

In the northern area Structure 2A was sealed by a patchy yellow clay floor (416, 417). The former overlay slot 435 and contained traces of burning *in situ* from hearth bases. Slot 431 was sealed by a deposit of yellow clay (430).

Post-holes 404, 407, 426 and 427 were stratigraphically related to Structure 2B, but no wall bases or other structural elements were determined. Clay floor 417 was sealed by a thin charcoal spread and spreads of burnt daub lumps in yellow clayey loam, probably representing demolished ovens. These deposits were overlaid by a patchy clay floor (345). Floor 416 was overlaid by grey-green crumbly loam bearing traces of burning *in situ*. This was sealed by thin lenses of trampled occupation loams containing much charcoal and burnt daub lumps. Post-hole 407 cut this layer. Another patch of burnt loam (396/423), covered by spreads of burnt daub, suggests the site of another destroyed hearth.

In places these deposits as with those to the south, were sealed by a layer of grey clayey loam.

Elsewhere in the northern half of the trench, contemporary layers were severely cut by later activity. These layers included a pebble spread (333), sealed by a clay floor or hearth base with extensive burning (332), and hearth base 341. In other surviving areas of stratigraphy, layers of grey-brown clayey loam, usually containing charcoal flecks, were deposited.

A lack of post-holes surrounding hearths 332, 341, 393 and 462 suggests that they were situated in an open area adjoining Structure 2B.

RUBBISH PITS CONTEMPORARY WITH STRUCTURE 2B (Table 1)

Three large rubbish pits were excavated (248, 313, 318). Pit 248 cut stratigraphy on the edge of Structure 2B, whilst the other pits were not securely tied into the stratigraphy of the structure, due to later pit cutting.

PIT 248

Pit 248 was excavated to its base. The lowest dumped backfill was of mid grey to yellow mixed clayey loam 85 cm. deep, containing some gravel (248H). This was overlaid by a series of thick alternating lenses of charcoal, dumps of oyster shells and clayey loam tips, derived from Structure 2B. A residual seventh- or eighth-century bone comb (Fig. 28, no. 97) came from one of the lower charcoal dumps.

PIT 313

This pit was probed, only 30 cm. of its backfill having been excavated by hand. This consisted of mid brown clayey loam overlaid by a deposit of dark grey-green loose loam, in turn sealed by yellow-green stony clayey loam.

PIT 318

Only 20 cm. of this pit was excavated by hand, the backfill being of dark grey clayey loam to orange-brown gravel and loam.

DATING SUMMARY

Seventh-century pottery, even in the earliest layers, was sparse, suggesting a period of abandonment during the first one hundred years of Period 2ii.

Clay quarry 615, beneath Structure 2A, contained one sherd of eighth- or ninth-century pottery. Gully 444 produced a similarly dated sherd and pit 497 contained one sherd of pottery dating to *c.* 800–850.

Levels within Structure 2A contained little pottery. One of the earliest charcoal spreads (487) and the burnt daub layer overlying it, yielded sherds dating to *c.* 750–800/825. Slot 435 produced pottery of *c.* 750–825/50. Sealing layer 466 yielded sherds dating to the ninth century, including fragments of a boss-decorated jar (p. 104). The above evidence suggests that Structure 2A was occupied during the first half of the ninth century.

Structure 2B directly overlay Structure 2A. Very little pottery was produced from this structure. However, post-hole 453 yielded sherds dating to *c.* 950–1000.

A layer sealing pit 480 produced ninth/tenth-century sherds, whilst sherds from the layer overlying hearth base 462 were dated to *c.* 925/50–975.

Two of the three rubbish pits produced the largest collection of pottery. Within pit 248 the lowest charcoal and clayey loam deposits (248C), above the initial dumped backfill, yielded sherds dating to *c.* 925–950/75. The latest charcoal and oyster shell dump (248A) also contained sherds of *c.* 925–950/75. This later was sealed, after subsidence, during Period 3i. Pit 313 yielded pottery dating from *c.* 925/50–975 with later elements *c.* 975–1000, together with a residual silver coin of Aethelwulf of Wessex (*c.* 839 to *c.* 858).

To summarise, therefore, Structure 2A appears to have been constructed in the early ninth century, continuing perhaps until *c.* 850. Structure 2B continued over the previous structure, but perhaps after a gap of about one hundred years, continuing its use until *c.* 1000 after which it was rebuilt (Period 3i).

CONCLUSIONS

Period 2ii, therefore, commenced with a period of limited clay extraction. This was sealed by the construction of an industrial structure of uncertain function of two broad phases. The lack of structural posts and timber slots suggested a structure based on ground-beams. Its boundaries were not clearly defined due to cutting by later pits, but it covered a minimum area bounded by slots 604, 435 and pit 248.

Hearth bases beyond the suggested limits of Structure 2A/2B may have been situated in an open yard adjacent to the building.

Period 3 c. 1000 to c. 1200 (Figs. 7–9)

This period has been sub-divided into four parts as follows:

Period 3i c. 1000 to *c.* 1080/1100. Structure 2 continued in use after a rebuild (Structure 2C).

Period 3ii c. 1080/1100 to *c.* 1150. Structure 2C was abandoned. The whole area was given over to rubbish pits.

Period 3iii c. 1150 to *c.* 1175. After backfilling of the rubbish pits, a clay-floored structure was built (Structure 3).

Period 3iv c. 1175 to *c.* 1200. Structure 3, now out of use was cut by several rubbish pits and a large bronze smelting/casting feature.

Period 3i c. 1000 to c. 1100/1125 (Figs. 7 and 8, Pl. III)

STRUCTURE 2C (Fig. 8, Pl. III)

In the southern part of the excavation, Structure 2B of Period 2ii was overlaid by a thick spread of charcoal (386) which sealed all posts belonging to the earlier structure. This was in turn overlaid by a thin layer of buff-orange fire-hardened brickearth representing the base of a hearth (385), possibly on a clay floor. A further deposit of charcoal and loam (382), up to 6 cm. deep, was then deposited. At this point a spread of buff/yellow brickearth was laid, probably as a clay floor (378). It was cut by post-holes 381 and 384, the only structural elements located in this phase of the structure. It is likely that the walls of the building were based on ground-beams. The posts were sealed by a mixed layer of gravel and silty clay, containing some slag lumps, (200/372), which was continued in the area to the north by sandy gravel spread 247 and pebble working surface 319/353. Gravel layer 200/372 was covered by a deposit of grey-green clayey loam (371). This was cut by slot 380 and post-holes 357, 373, 374, 375, 377 and 383. At no other point was the pebble layer cut by structural features. The limits of Structure 2C were, therefore, impossible to define. To the south of slot 380, a hearth base of orange-brown fire-hardened brickearth (379) sat on gravel spread 200. It was overlaid by a thin deposit of charcoal (194), which itself was sealed by a series of clayey loam spreads (195 to 198). The entire area south of slot 380 was then covered by a further working surface of yellow silty gravel (192) over a bedding of brickearth. A spread of charcoal (191) covered part of this surface.

Over the area to the north of these deposits, the stratigraphy lacked the charcoal spreads. Pebble spread 247 and working floor 319/353 were sealed by a deposit of fine grained dark grey-green clayey loam (246). This was in turn overlaid by pebble spread 245/297. Another deposit of fine grained dark grey clayey loam sealed this pebble spread. It contained heavy charcoal flecking and many oyster shells.

At this point the structure appears to go out of use, and was sealed by Period 3ii loam and gravel horizons.

OTHER PERIOD 3i STRATIGRAPHY

Extensive cutting of stratigraphy by later pits destroyed most of the layers adjacent to Structure 2C. A small length of slot (218) cut a deposit of dark grey clayey loam. Nearby a yellow clay and pebble spread (330) may represent part of the courtyard adjacent to

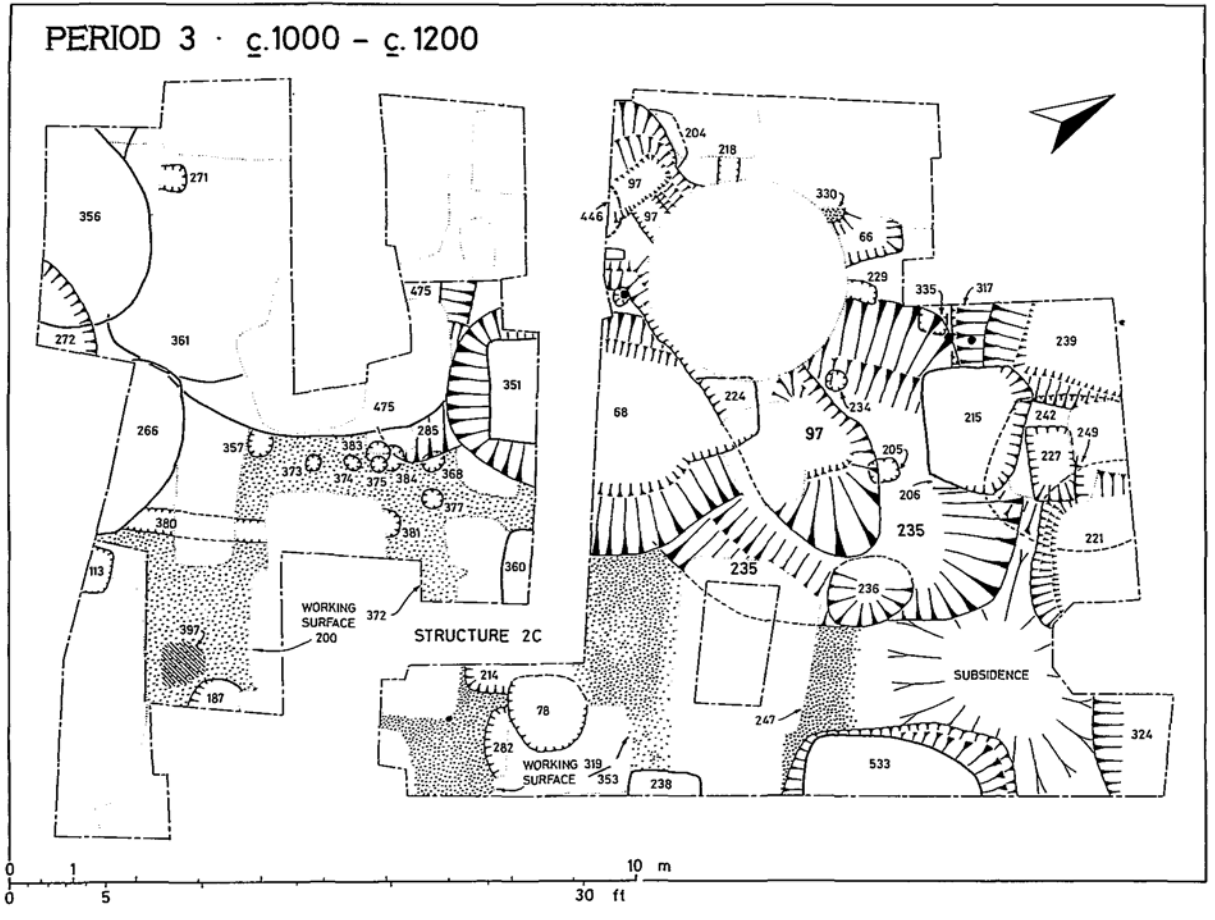

Fig. 7. No. 41 St. George's Street: Plan of Period 3, *c.* 1000 to *c.* 1200.

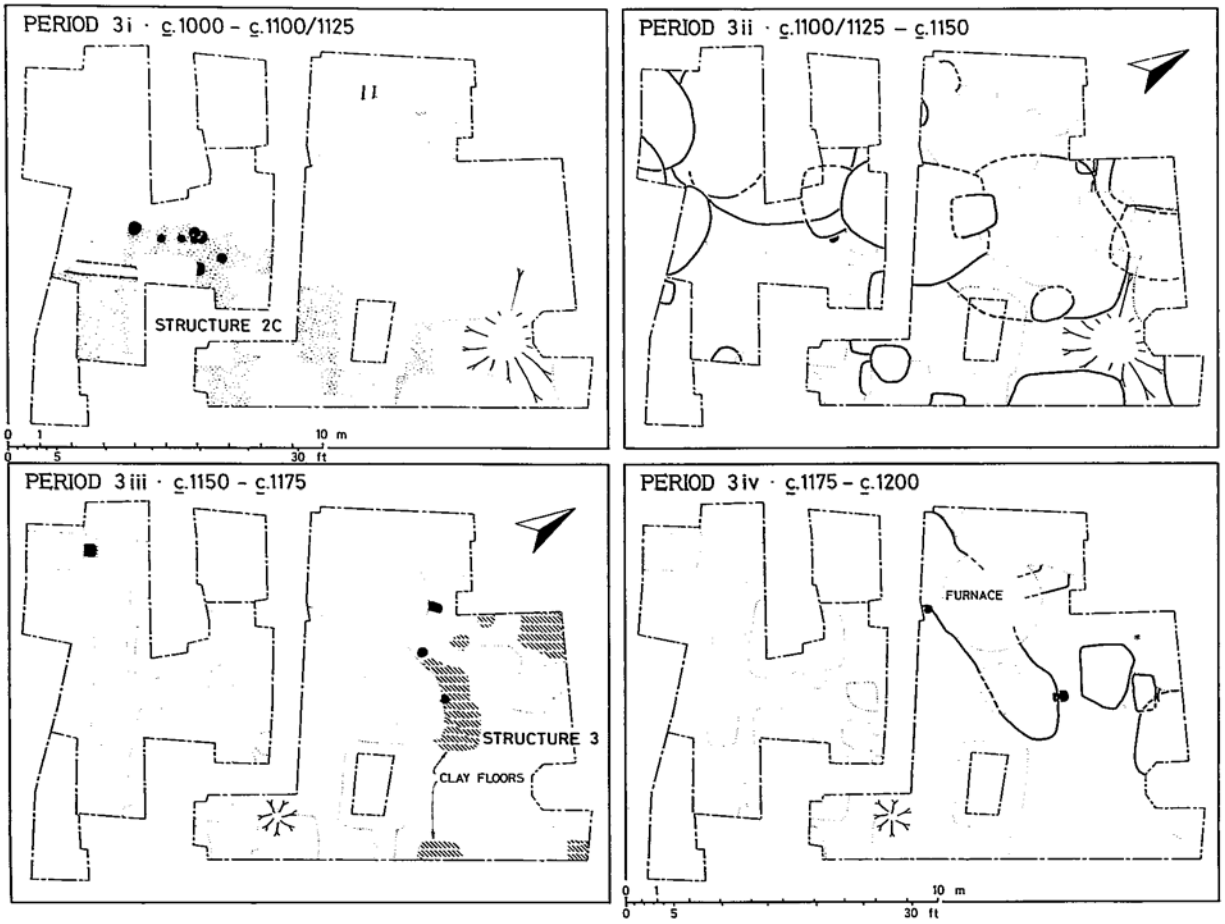

Fig. 8. No. 41 St. George's Street: Plans of Periods 3i, 3ii, 3iii and 3iv.

Structure 2C. Pit 248 continued to settle, creating a subsidence hollow which received deposits of dark grey/black loam with a high charcoal and burnt daub content, presumably waste from Structure 2C.

DATING SUMMARY

The earliest levels within Structure 2C sealed Structure 2B of Period 2ii. They contained pottery dating up to *c.* 1080–1125. The deposit of fine dark loam (246), sealing working floor 319/353, yielded sherds dating to *c.* 1100/1125–1150 as did the loam spreads over the charcoal spread 194. Clayey loam 371, which was cut by the main structural posts and slot 380, contained pottery dating between *c.* 1080 to *c.* 1150.

The uppermost layer within pit 248, which had been dumped into a hollow caused by subsidence of the underlying pit fill, contained pottery up to *c.* 1125/1150 in date.

The structure was sealed by Period 3ii stratigraphy, and cut by rubbish pits, also of Period 3ii.

CONCLUSION

Period 3i saw the rebuilding of Structure 2 as Structure 2C. Gravel spreads, working floors and hearth bases suggested a continued industrial function, but the boundaries of the building were not clearly defined, and may have been based on ground beams which have left no trace in the stratigraphy. The structure appears to have gone out of use around 1125.

Period 3ii c. 1100/1125 to c. 1150 (Figs. 7 and 8)

COURTYARD AREA

The area of the working floors and gravel spreads of Structure 2C was sealed by a layer of silty gravel (189/237/292) up to 10 cm. deep, possibly laid as a yard surface. This was sealed by thick deposits of dark grey clayey loam with abundant oyster shells and chalk chips, which covered all areas not removed by later pits. It may represent a deposit of garden soil. Amongst the objects located in these layers were an iron knife (Fig. 21, no. 54) an iron buckle (Fig. 21, no. 62) and an iron strap-end (Fig. 21, no. 61).

THE RUBBISH PITS

The garden loam was cut by twenty-five pits of various sizes. All are assumed to have been rubbish/cess-pits in the gardens of structures fronting onto St. George's Street. Some displayed unweathered edges indicative of rapid backfilling, whilst others, notably the larger ones, had severely weathered edges suggesting that they remained open to the elements for some time.

TABLE 2: TABLE OF PERIOD 3ii PITS

Pit number	Depth (cm.)	Pit number	Depth (cm.)
68	454 P	272	130 NB
78	155	275/361	130 NB
113/256	23	282	40
204	100	285	45
214	195 P	317	40
224	30 T/NB	324	140 NB
235	295 P	351	300 P
236	75	356	260 P
238	180 P	360	180 P
239	389 P	446	148 T
242	114 P	475	230 P/NB
249	40 T/NB	533	475
266	315		

NB – not bottomed; P – probed to base; T – truncated.

All of these pits contained a backfill of predominantly dark grey-brown clayey loam with lenses of redeposited brickearth, oyster shells, charcoal and, occasionally, burnt daub lumps. Pits 78 and 239 contained loose organic loam indicative of cess disposal. The degree of slumping in many of the other pits suggests that their lower, unexcavated, levels would have contained similar primary backfill. Indeed pit 78 continued to receive material, after slumping, during Period 4i.

The backfill of the rubbish pits contained many objects which may have been discarded by the occupants or workers in the structures on the St. George's Street frontage. These included an iron knife (Fig. 21, no. 55) and bone box mount (Fig. 29, no. 98) from pit 68. An almost identical piece of bone box mount from a layer sealing pit 68 (Fig. 29, no. 99) must have the same origin as the former. The backfill of pit 235 produced an iron twelfth-century lock (Fig. 19, no. 42, Pl. IX), and iron key (Fig. 20, no. 41), an early medieval

horseshoe (Fig. 23, no. 69) and part of a pair of portable iron scales (Fig. 21, no. 60) and the backfill of pit 236 produced a possible eleventh-century bone spoon (Fig. 29, no. 102). Pit 242 contained a residual seventh- to eighth-century copper alloy ansate brooch (Fig. 14, no. 24).

DATING SUMMARY

The earliest rubbish pits of Period 3ii cut Structure 2C of Period 3i. The early Period 3ii pits contained pottery dating to 1100/1125 within later pits yielding vessels dating to 1125/50. A few later sherds, for example in the latest fill of pit 68 dating to 1225/50 suggest later backfilling into areas of subsidence. A suggested end of the pit-digging would, therefore, be *c.* 1150.

CONCLUSIONS

Period 3ii was predominantly one of cess/rubbish disposal in the yard or garden areas behind structures on the St. George's Street frontage, and adjacent to a metalled yard.

Period 3iii c. 1150 to c. 1175 (Figs. 7 and 8).

During Period 3iii the backfilled rubbish pits were sealed by the construction of a possible clay-floored building, Structure 3.

STRUCTURE 3 (Fig. 8)

Floors of this building survived only in those places where the earlier pits had subsided, taking them below the contemporary ground level which was later truncated. This may account for an almost total lack of structural posts.

The sequence of floors survives most intact in the upper fill of pit 324 (Fig. 2, Section 1). The earliest floor (88D) consisted of yellow clay containing many lumps of burnt clay. This may be equivalent to a layer of burnt clay (240), which was noted in the subsidence of pits 235 and 239. The fired clay layer was overlaid by a spread of brown-orange clayey loam and burnt clay, which was in turn sealed by a thin deposit of yellow-grey compact clayey loam containing some oyster shells. These layers were contemporary with one slot and a post-hole (229, 234). The post-hole contained, amongst its flint packing, frequent charcoal and burnt clay lumps. The post, slot and earlier layers were sealed by a layer of mid to dark grey silty loam, up to 10 cm. deep, containing many charcoal flecks and a few oyster

shells (223) which may be equivalent to 88C and represent an 'occupation' level. A yellow clay floor with burnt clay lumps (88B/222) sealed the occupation level. Floor 222 was overlaid by a thin spread of orange sandy gravel (212, 216), which was also located in the upper backfill of pit 533 as the lower part of layer 64A. Post-hole 205 cut the gravel spread. Floor 88B was sealed by a thin spread of mid grey loam, which was in turn overlaid by the base of a hearth/oven (58) with a vitrified surface. The sequence of floors in pits 235, 239, 324 and 533 was sealed by a deposit of chalk fragments (64A/89/217), which may represent another floor.

A thin spread of gravel and a layer of grey loam with oyster shells overlay the deposits over post-hole 234, and was contemporary with the later floors. Elsewhere the truncation of deposits removed all Period 3iii levels, except in the south-west corner of the excavation, where the end of a slot (271) was located. It had been backfilled with grey sandy loam and gravel and overlaid by deposits of dark grey clayey loam and gravel containing many oyster shells. The crucible fragments from the levels within this structure strongly suggest an industrial function (p. 171).

DATING SUMMARY

The earliest deposits of Structure 3 sealed Period 3ii pits and produced mainly residual pottery. Silty loam 223 produced an eleventh/twelfth-century mace-head (Fig. 15, no. 30, Pl. VIII). Pit 206 yielded sherds dating to *c.* 1150–1175. Occupation loam 203 contained pottery dating to *c.* 1155–75/80 and a residual silver coin of William I, *c.* 1066–87 (Pl. VII).

Structure 3 was cut by Period 3iv features.

CONCLUSIONS

The surviving stratigraphy of Period 3iii has been interpreted as representing the remains of a timber building. An almost total lack of structural posts makes any interpretation of the plan impossible. The building presumably represented a timber structure situated in the yard of a property fronting onto St. George's Street, and from the content of burnt daub and crucible fragments was apparently of an 'industrial' nature (p. 171).

Period 3iv c. 1175 to c. 1200 (Figs. 6, 7 and 8, Pl. IV)

During Period 3iv a bronze smelting/casting feature cut the floors of Structure 3, which was now out of use.

THE BRONZE SMELTING/CASTING FURNACE 97 (Figs. 7–9; Fig. 2, Section 5; Pl. IV)

This consisted of a large furnace of three surviving parts: a stoke area, a flue and a possible casting area. Unfortunately, the part between these three elements was destroyed by a large septic tank of Period 5 date, making interpretation difficult, but it is suggested here that the smelting area may have occupied the position between stoke and 'casting' areas. At least two phases are suggested by the arrangement in the 'casting' area.

Samples of fired clay and slag have been analysed by Paul Budd of the Ancient Monuments Laboratory. For the results of these analyses, see p. 169.

The stoke pit survived to a depth of 95 cm., with a somewhat shallower area of 65 cm. at the point where the fire would have been situated. The base of the flue (66) lay 40 cm. above the base of the firebox. It was 55 cm. deep. On one edge of the flue a lining of burnt clay survived (97L). This was overlaid by a thin spread of charcoal.

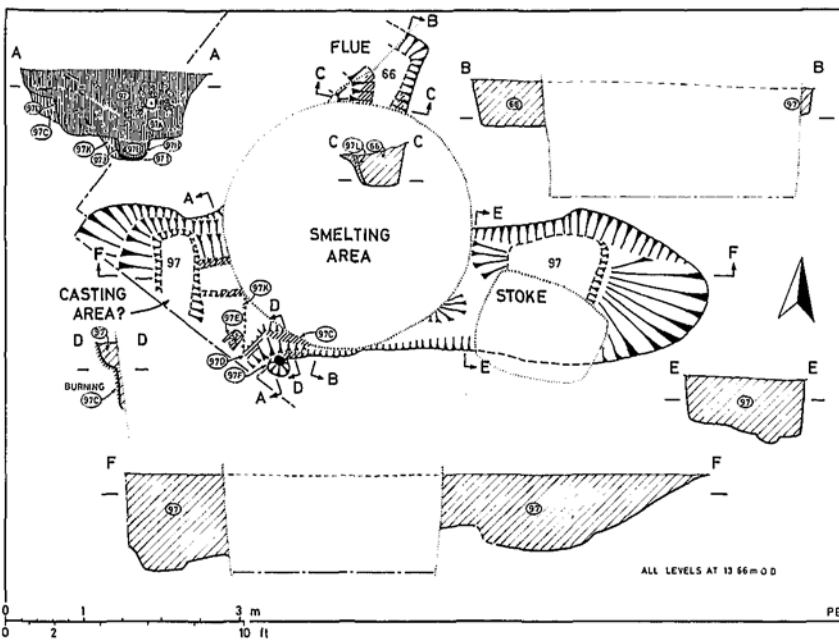

Fig. 9. No. 41 St. George's Street: The bronze melting feature, Period 3iv, showing plan, section and profiles.

The 'casting' area consisted initially of a stepped pit 120 cm. deep with burnt lining (97C). Section 5, Fig. 2, and Section D-D, Fig. 9 show the stepped burnt profile. A second phase consisted of the infilling of part of the pit (97K); the construction, re-using large burnt clay lumps, of a new lining (97D), and a low chalk and burnt clay 'wall' 24 cm. high. The base of the 'casting' pit now contained a channel (Fig. 9, Section A–A) lined with burnt clay (97J, 97H) and containing a deposit of charcoal and ash in its base (97I). The base of this channel lay 40 cm. below the base of the fire-box and sloped gently down into the 'casting' pit (Fig. 9, Section F–F). A post-hole (97F) contained a socket 10 cm. in diameter and a packing of brown clayey loam and burnt clay. It was 76 cm. in depth and may have been associated with the furnace superstructure.

All parts of the feature were backfilled with similar material. The lowest 20 cm. (97B) consisted of dark brown/grey loam containing many large lumps of burnt daub, charcoal flecks and lumps of chalk. The upper backfill (97 and 97A) was of mid brown loose loam containing similar material to the layer beneath. The backfill above 97D and 97E contained spreads of burnt clay which may represent the collapse of the above-ground lining/dome (Fig. 2, Section 5). An interesting copper alloy object from layer 97 was the pan of a pair of scales (Fig. 16, no. 33).

The truncation of the contemporary ground-level had removed all traces of associated yards and working surfaces.

PITS

Three pits were cut during this period. The table below shows their depths. Pit 215 contained organic loam indicative of cess disposal, and the depth of pit 221 suggests a similar primary function. The latest backfill of the pits contained material dating to Period 4i which had been dumped into the hollows left by their subsidence.

TABLE 3: TABLE OF PERIOD 3iv PITS

Pit Number	Depth (cm.)
215	175 P
221	330 P
227	100

P – probed.

THE EXTENSION

Within the machine-cut extension Period 3 deposits consisted of thick deposits of garden soils.

DATING SUMMARY

Smelting/casting feature 97 cut Period 3iii stratigraphy. The bulk of the pottery within the backfill (97A, 97B) dated to *c.* 1175–1200. Similar sherds were also located in the backfilled flue (66). A termination date of *c.* 1200 is suggested for Period 3iv. The backfilled feature was sealed during Period 4i.

The pits (215, 221, 227) present more of a dating problem. The earliest of the three (221) contained residual pottery of *c.* 1075–1110/1125 in the lowest excavated fill. The fill above this is dated by pottery to *c.* 1175 to 1225; representing infilling during Periods 3iv and 4i. Pit 227 cut pit 221. It contained pottery dating to *c.* 1175/80–1225. The latest of the three pits (215) contained pottery of *c.* 1125/50–1175 date in its cessy loam backfill, sealed by later infilling containing material dating to *c.* 1175–1200/1225. These pits, despite the earlier pottery from the lower fill, have been placed into Period 3iv since no floor levels relating to Structure 3 of Period 3iii were present in the backfill. To summarise, the pits were probably cut towards the end of Period 3iv and received more backfill during Period 4i as the fill subsided.

CONCLUSIONS

The bronze smelting/casting feature may have been situated to the rear of properties fronting onto St. George's Street, although the lack of rubbish pits to the south of feature 97 may suggest that the street frontage was vacant during this period. A lack of Christ Church Rentals for the block of land stretching back from St. George's Street and extending to the church of St. George[2] for the period *c.* 1166 to *c.* 1200, may lend support for the suggestion of the open nature of the surrounding area during the use of the smelting/casting feature which surely would have constituted a serious fire hazard to any neighbouring timber buildings.

[2] W. Urry, *Canterbury under the Angevin Kings*, (London, 1967), Map 1a, sheet 5 and Map 16, sheet 6.

Period 4 c. 1200 to c. 1550 (Figs. 10 and 11)

This period has been divided into two parts as follows:

Period 4i c. 1200 to *c.* 1425. The subsidence hollows over earlier pits were backfilled. A thin scatter of rubbish pits overlaid by a thick deposit of garden loam which was in turn cut by another scatter of pits. Structure 4 was built, and later abandoned.

Period 4ii c. 1425 to *c.* 1550. Structure 5 was constructed. In its yard a series of pits were cut.

Period 4i c. 1200 to c. 1425 (Fig. 10)

THE EARLY PITS AND GARDEN SOILS (Table 4)

The initial Period 4i activity was the backfilling of earlier rubbish pits as their backfill subsided; pits 78, 239 and 533 of Period 3ii, and 215 and 221 of Period 3iv all received additional material during period 4i. The upper backfill of 215 contained a pair of copper alloy portable scales of thirteenth- or fourteenth-century date (Fig. 16, no. 32).

Within the uppermost backfill of pit 221 a series of yellow clay, charcoal and burnt daub deposits (84A to 84C) represent a hearth/oven base. These layers subsided and were sealed by a thick dump of brown clayey loam. The backfilled hollows were then cut by pits 74 and 83; the latter containing charcoal and bronze slag in its backfill.

TABLE 4: TABLE OF PERIOD 4i PITS

Pre-garden soil pits	Pit Number	Depth (cm.)	
	57	120 TP	
	74	30	
	83	95	
	253	135 P	
	280	25	
Post-garden soil pits Pit Number	Depth (cm.)	Pit Number	Depth (cm.)
16	27	157	30 T
77	102	176	26
87	12	188	50
95	30	252	43
100	10	257	25
105	72	294	70
146	300 P	310	65

T – truncated; P – probed.

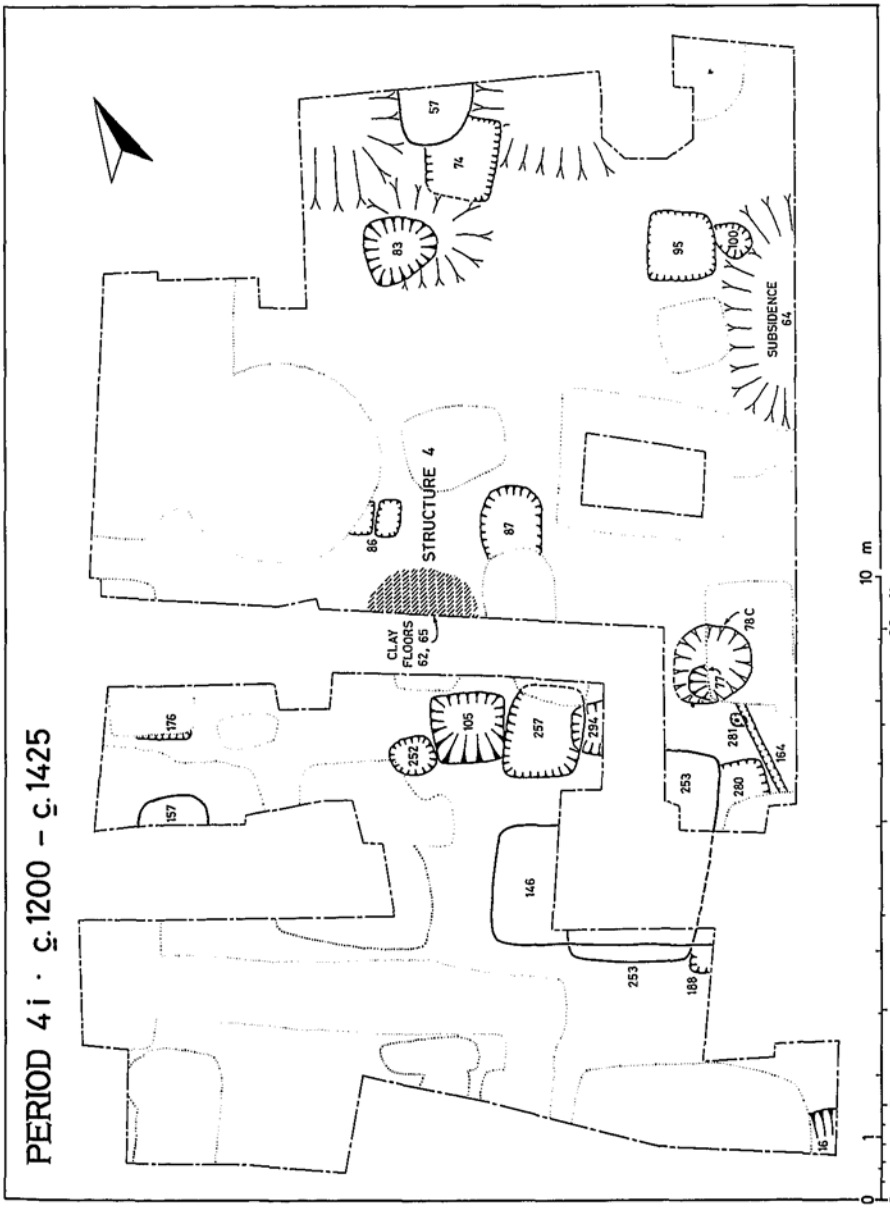

Fig. 10. No. 41 St. George's Street: Plan of Period 4i, *c.* 1200 to *c.* 1425.

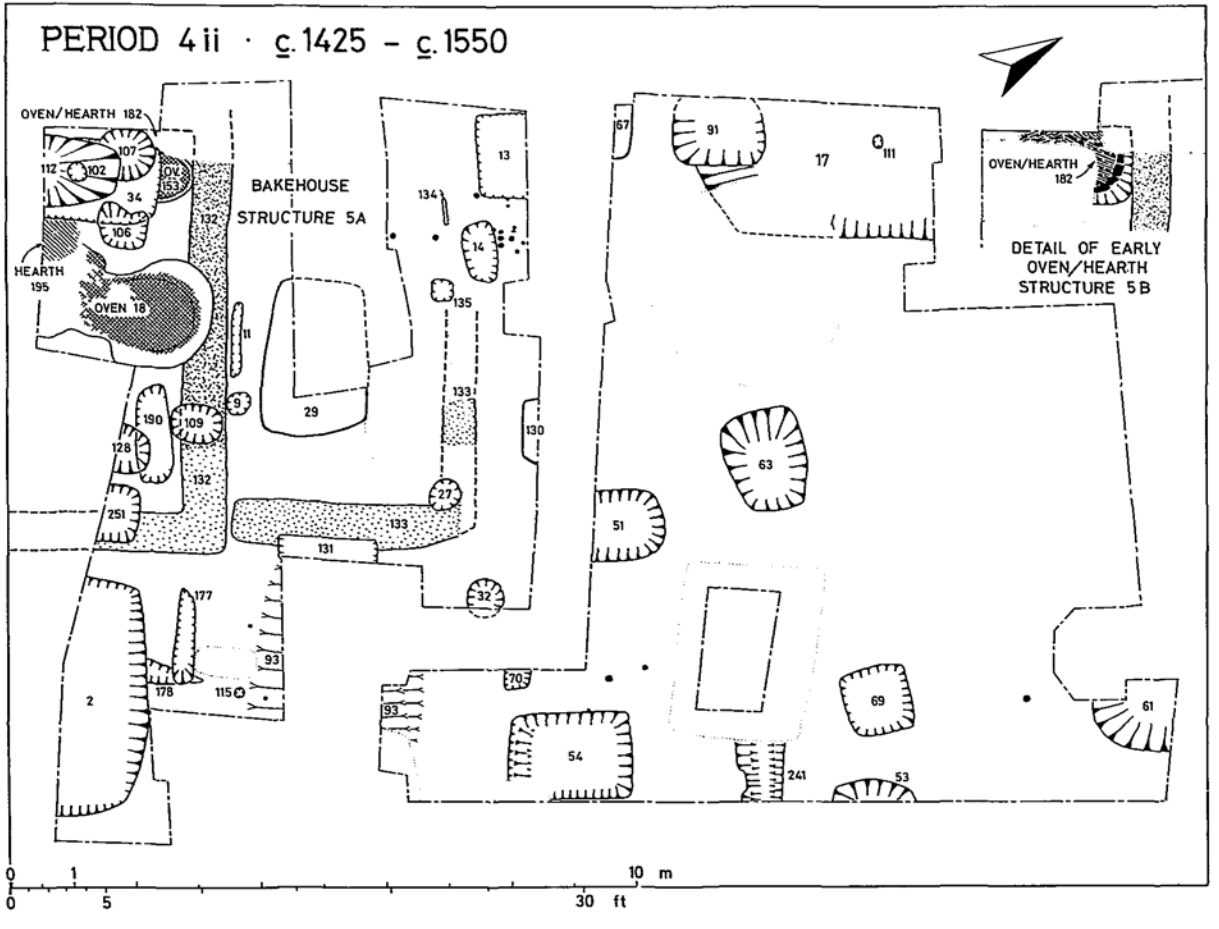

Fig. 11. No. 41 St. George's Street: Plan of Period 4ii, *c.* 1425 to *c.* 1550.

Pits 253 and 280 were also cut around this time, and pit 57 cut backfilled pit 74. After backfilling these pits, and the majority of the northern part of the excavated area, were sealed by a series of dark brown garden loams up to 70 cm. in depth (81, 90, 92, 99). Parts of the southern area were also sealed by a deposit of dark brown loam (259).

THE POST GARDEN-SOIL PITS (Table 4)

The garden loams were cut by a scatter of pits. They were predominantly backfilled with dark brown loam, although pits 16, 105 and 252 contained thin layers of charcoal and 87 and 95 many mortar fragments. Table 4 gives the depths of all the Period 4i pits. It will be evident from this that the majority of the pits were shallow. The deeper ones almost certainly represent cess pits.

SLOT 164

This slot, containing a backfill of dirty white mortar lumps, was 5 cm. deep and of uncertain function.

STRUCTURE 4 (Fig. 10)

Little survived of this structure due to the truncation of Period 4i stratigraphy. However, part of the floor levels survived where they had subsided into an earlier pit (Fig. 2, section 5). These consisted of a yellow clay floor (65B) with a partially burnt surface, 7 cm. thick, overlaid by a thin spread of off white mortar (65A) which was in turn overlaid by another yellow clay floor 23 cm. thick (62). This in turn was sealed by a destruction layer containing many roof-tile fragments. Two shallow gravel-filled post-holes (86) may have been associated with this structure.

THE EXTENSION (Fig. 2, section 4)

Within the machine-cut extension, Period 3 garden soils were overlaid by further deposits of garden loam during Period 4i. These were cut by a pit (310) containing a backfill of dark brown/grey clayey loam and frequent oyster shells.

DATING SUMMARY

The backfill of hollows created by the subsidence of earlier pits contained pottery dating to *c.* 1175–1225. Pre-garden soil pits pro-

duced pottery dating from *c.* 1200 to 1225 up to *c.* 1275–1300/1325. Garden loams sealing these pits yielded sherds dating to *c.* 1240–1275 with later pieces possibly as late as *c.* 1300.

Pits cutting garden loams contained residual pottery mixed with the later sherds. Pit 95 yielded sherds dating to c. 1275–1350, whilst pits 16 and 77 produced pottery up to c. 1375–1425. Only one pit (294) yielded later sherds up to *c.* 1500–25/50 from the later backfilling. Obviously, the post-garden-soil pits were being cut by pits over an extended period.

The floors of Structure 4 contained only residual pottery, but stratigraphically they post-dated the garden loams, so that they must be later than *c.* 1300.

The pits were sealed over the southern part of the excavation by Structure 5 of Period 4ii.

CONCLUSIONS

The few pre-garden pits were overlaid by thick deposits of loam, presumably representing garden deposits.

The cutting of the garden loams by pits after *c.* 1275–1300 seems to be a good indicator of dwellings having been built around this time on the St. George's Street frontage (Fig. 1). Structure 4 may represent a small outbuilding in the yard or garden of such a property.

Period 4ii c. 1425 to c. 1550 (Fig. 11, Pl. V)

Period 4ii saw the construction of Structure 5 and the cutting of a few rubbish pits. These deposits were truncated by machine stripping during the opening of the excavation.

PRE-BAKEHOUSE LEVELS

Pit 29 was cut and backfilled with grey/brown loam containing many burnt clay lumps and charcoal flecks. A thin layer of crushed chalk and a layer of dark brown clayey loam were used to level the subsidence into the pit. Elsewhere a levelling layer was deposited (179/180).

STRUCTURE 5A – THE BAKEHOUSE (Fig. 11, Fig. 2, Section 5, Pl. V)

The levelling layers were cut by walls 132 and 133; the former constructed above a gravel-filled trench 65 cm. deep, whilst the latter had shallow foundations which were consequently poorly preserved. Construction deposits of crushed chalk and mortar were associated

with these walls. Parts of two rooms were represented. The construction trench for wall 132 contained a ceramic spindle-whorl (Fig. 31, no. 109).

The earliest internal feature consisted of a possible hearth base of black fire-hardened clay (175) overlaid by a thin spread of crushed burnt chalk. This had subsided into the pit beneath; the resulting hollow being backfilled with pale brown brickearth (174/657). Oven 182 may be broadly contemporary with 175. It consisted of a pitched-tile oven base of roof-tiles, set in yellow clay with an edging of horizontal tiles, which would have formed the sides and back of the oven. This oven was sealed by a thin spread of brown-green brickearth.

A second phase in the life of the bakehouse was represented by the construction of two ovens (18 and 153).

OVEN 18 (Fig. 2, Section 5)

This was partly cut into the north wall of Structure 5A; the rubble from the wall being laid as a levelling layer beneath the oven. Oven 18 was built with yellow clay, which had been burnt an orange-brown, and contained lumps of burnt clay perhaps re-used from the destruction of an earlier oven. The walls of the oven survived to a height of 10 cm. and were also of yellow clay, peg-tiles and chalk lumps. The burnt floor of the oven and its flue were sealed by a thin deposit of charcoal and ash. This was covered, in the stoke area by a thin layer of grey loamy brickearth, in turn overlaid by several layers of burnt clay (120). The oven and stoke area were sealed by buff brickearth containing burnt clay lumps, possibly the remains of a clay floor (142), covered by a thin trampled loam with charcoal flecks.

A shallow depression cut the stoke area (141). After backfilling it was sealed by a yellow clay floor (139). A shallow depression (28) in the oven backfill contained an industrial lead weight. A second lead weight came from a shallow depression cutting floor 139 (Fig. 25, no. 85).

OVEN 153

Oven 153 also abutted, but did not cut, wall 132. Though partially destroyed by a later pit, the oven was of similar construction to oven 18 with a base of yellow clay, burnt to a red-brown colour and raised at the edge to form the clay walls. A layer of fire-hardened brickearth on the oven base was overlaid by a thin spread of grey brown brickearth and ash, which in turn was sealed by a layer of buff brickearth.

FEATURES POST-DATING THE OVENS IN STRUCTURE 5A (Fig. 2, Section 5)

Pit 34 cut oven 153. The pit contained fine clayey loam which had been burnt to a rich brown colour. Two shallow pits (100, 107) cut the backfill of pit 34, and backfilled pit 107 was subsequently cut by pit 112, which contained a backfilling of buff brickearth, burnt brickearth lumps and roof-tile fragments. The burnt loam fill of pit 34 and oven fragments within 112 suggest that pit 34 may have contained a pitched-tile oven/hearth. Post-hole 102 cut this backfill and was sealed by a layer of grey loam (38) to level the pit beneath. The Period 4ii stratigraphy in this part of Structure 5A was sealed by a compacted dark grey loam containing chalk and mortar rubble (33). This room was also cut by pit 190 and later pit 128. Small pit 109 and pit 251, which contained a backfill of large chalk blocks, a worked limestone block and gravelly loam, cut wall 132 after the first phase of the bakehouse had gone out of use.

THE NORTHERN ROOM

In this room, the layer of buff clay sealing pit 29 was cut by a post-hole and slot (9 and 11), possibly belonging to internal fittings. No floors survived, but a layer of grey-brown clayey loam may represent a levelling deposit beneath the earth floor. Slot 134 and post 135 may be parts of the north wall of this room. A scatter of nearby stake-holes could also represent elements of an entrance into the room from the adjacent yard. Post-hole 27 cut wall 133 and must either represent a repair to the wall or a feature post-dating the structure.

THE GARDEN/YARD

To the east of Structure 5A two shallow slots (177, 178) probably belong to a shed built against the bakehouse. Elsewhere a few scattered post-holes, slot 241 and several rubbish pits were located.

THE PITS (Table 5)

Most of the pits were shallow and backfilled with grey clayey loam, yellow clay and contained oyster shells, tile fragments and animal bones indicative of rubbish disposal. Many had been truncated by the machine-stripping of the site. Pit 2 was not bottomed, but its depth suggests that it might have been a cess-pit. Pits 54 and 91 contained organic loam in their lower fill, suggesting a similar function. Several

of these pits produced objects which may have been used by the occupants of the structures on the St. George's Street frontage or the bakehouse (Structure 5A). The backfill of pit 17 included an iron key (Fig. 20, no. 49), a buckle (Fig. 21, no. 64), a pair of scissors (Fig. 23, no. 74), a carpenter's 'dog' (Fig. 24, no. 83) and a stoneware spindle-whorl (Fig. 31, no. 110). Pit 63 included a key (Fig. 20, no. 45), buckle (Fig. 21, no. 63), a spur (Fig. 22, no. 65) and a sickle (Fig. 24, no. 75).

TABLE 5: TABLE OF PERIOD 4ii PITS

Pit number	Depth (cm.)	Pit number	Depth (cm.)
2	200 NB T	69	34T
13	43 T	70	120 NB T
14	21 T	91	160 T
17	120T	106	23
29	90	107	38
34	90	109	22 T
51	50	112	55
53	150	128	38 T
54	110 T	130	63 T
61	106 T	190	36
63	100 T	251	93
67	94		

T – truncated; NB – not bottomed

THE EXTENSION (Fig. 2, Section 4)

Within the machine-cut extension a series of garden loams were observed.

DATING SUMMARY

Levelling layers beneath Structure 5A sealed Period 4i stratigraphy. Much of the pottery was residual, but the latest fill of pit 29 contained sherds dating to *c.* 1475–1525.

Structure 5A again yielded residual sherds, but one of the loam layers in the northern room over pit 29 produced sherds of *c.* 1525–1550 date. Pits cutting the structure contained only residual sherds. A construction date around 1500–1525 is, therefore, suggested, after abandonment of the area or its use as a garden, during the early part of Period 4ii.

Pit fill 17A produced a fifteenth-century French jeton (p. 109, no. 16) and pit 91 yielded a fifteenth-century copper alloy strap-end (Fig. 17, no. 35).

The pits in the garden yielded pottery of a wide date range. Pit 54 contained pottery of *c.* 1450–1475 in its lower cessy fill and *c.* 1524–1575 in its upper fill, but a shallow depression cut by this pit contained sherds of *c.* 1475–1500/1525. Pit 2 yielded sherds of similar date. The majority of the deeper pits, therefore, seem to be contemporary with Structure 5A, dating from *c.* 1450–1525, containing material up to *c.* 1550. Structure 5A may have been in use until *c.* 1550. It was sealed by Structure 5B of Period 5.

CONCLUSIONS

The early years of this period saw the area perhaps as a garden until the construction of the bakehouse (Structure 5A) around 1500–1525. This almost certainly lay behind a structure on the St. George's Street frontage, and was probably a detached kitchen. The yard/garden to the rear saw the cutting of a few rubbish and cess-pits, but not in great quantity. Structure 5A continued, after modification, as Structure 5B.

Period 5 c. 1550 to 1985 (Fig. 12)

All Period 5 levels were truncated by the machine-stripping of the excavation. Two main phases of activity have been identified. Firstly, the rebuilding of Structure 5B, a bakehouse or detached kitchen, with associated boundaries and pits. Secondly, after bomb destruction of the area in the Baedecker raid of 12th June, 1942, the construction of a large department store with deep concrete footings.

STRUCTURE 5B (Fig. 12 and Fig. 2, Section 2)

This bakehouse was rebuilt with a flint and mortar dwarf wall and furnished with a thick yellow clay floor and a large pitched-tile oven/hearth. The pitched-tile oven was sealed by a chalk spread, and subsequent clay floor. The latest oven was constructed with a brick floor. This was sealed by demolition deposits and grey loam with mortar and brick rubble, and the sequence was cut by foundations for the concrete footings of the post-war structure.

PITS (Table 6)

The few pits were concentrated mainly in the southern half of the excavated area. The earliest were 31 and 56; pits 5, 96, 114 and 136

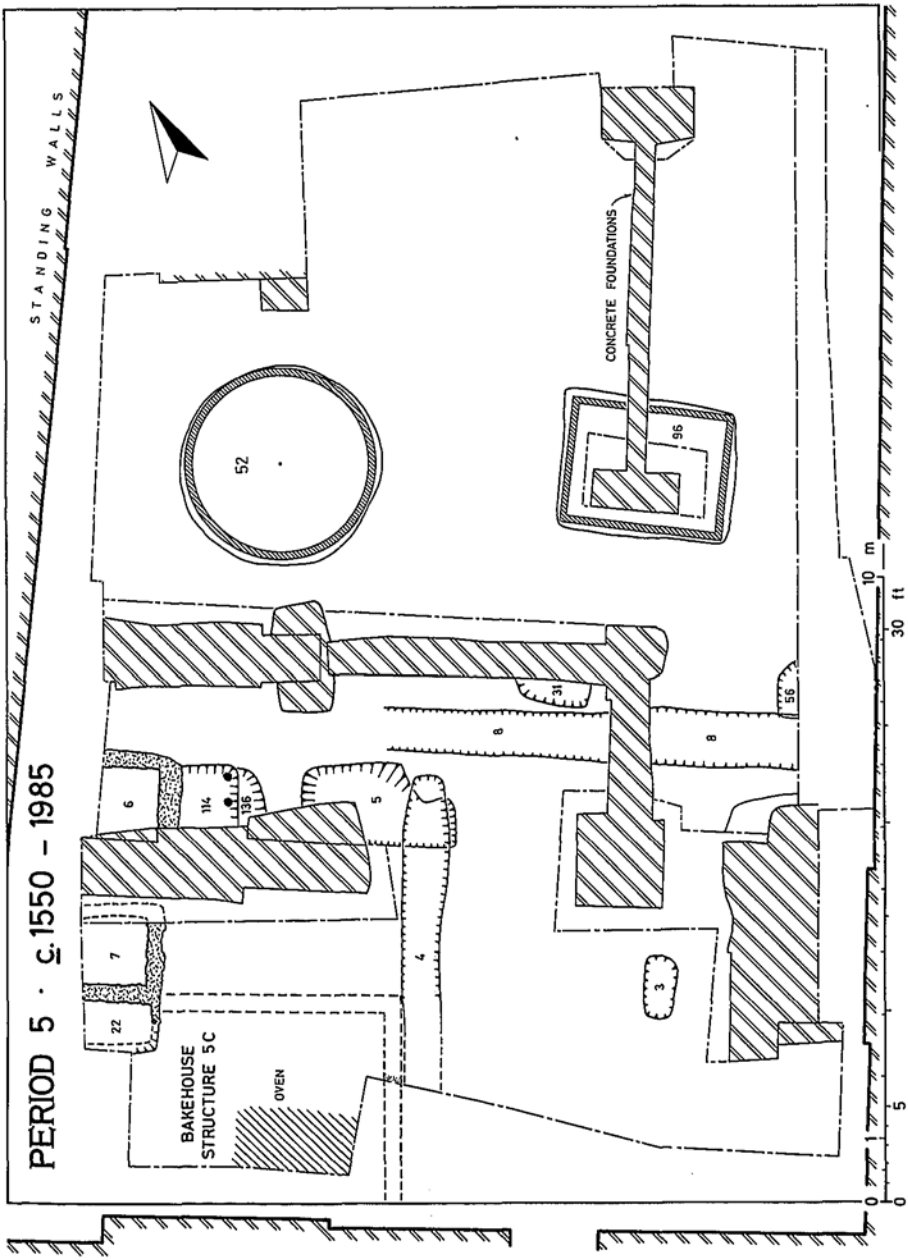

Fig. 12. No. 41 St. George's Street: Plan of Period 5, c. 1550 to 1985.

were later, whilst pits 3, 7, 6, 22 and 52 were latest of all. Pit 96 had a brick lining. Three (6, 7 and 22) had linings of brick, chalk and Caen stone bonded in yellow mortar, and were undoubtedly cess-pits, perhaps with toilets above. Pit 52 was a septic tank with a waterproof brick lining, floor and domed top.

The fill of these pits was varied; pits 6, 7, 22 and 114 contained organic material indicative of cess disposal, whilst 96 had been backfilled with purple ashy loam, animal bones and oyster shells indicative of household rubbish. The lined pits were certainly constructed to be periodically emptied.

TABLE 6: TABLE OF PERIOD 5 PITS

Pit number	Depth (cm.)	Pit number	Depth (cm.)
3	25	52	150
5	95	56	40
6	112	96	100
7	30	114	56
22	32	136	30
31	37		

All pits truncated

WALL FOUNDATIONS

The base of a flint, chalk and mortar wall (8) running north-west to south-east indicated a property boundary dividing a St. George's Street plot from a plot extending back from Burgate Lane.

A sub-foundation of that plot on the south side of wall 8 is indicated by robber trench 4 adjacent to Structure 5B.

The destruction in June 1942 of many surrounding buildings, including Structure 6 in Extension A, and damage to structures on the St. George's Street frontage, resulted in the demolition of buildings and levelling of the area. Fig. 2, section 1, shows the destruction layer of tiles sealing pit 53 and garden soils.

THE POST-WAR BUILDING

The corner of St. George's Street and Burgate Lane saw the construction of a large department store, the rear of which stood over the excavated area until its demolition in 1985. The footings consisted of deep concrete footings linked by concrete-encased steel girders, which were left *in situ* during the excavation.

THE EXTENSION (Fig. 2, Section 4)

Within the machine-cut extension, a masonry structure was built (Structure 6). This consisted of a substantial foundation (312A), of mortared ragstone and flint, within a steeped construction trench (308), supporting a mortared ragstone, Caen stone and flint wall (312). Much of the material within the wall was probably re-used building material.

Internally, the construction trench was overlaid by a construction level of grey loam containing many mortar fragments (307). This was sealed by a thick orange clay floor (306). The floor was overlaid by deposits of off-white mortar lumps (304, 305) possibly representing the decay of the structure and collapse of its internal wall plaster. Thick deposits of grey loam, possibly garden soils, sealed this decay level. These layers were cut by pit 302. Externally garden soils were building up in the area adjacent to Structure 6.

The remains of wall 312 were used as a foundation for a wall of more modest proportions, constructed from re-used Caen stone, brick and yellow mortar. This wall or the remains of its predecessor may be the boundary shown on the First Edition Ordnance Survey of Canterbury (1873). The area to the north-east of this wall contained a deposit of coarse brick, roof-tile, ash and fused window glass rubble (300), debris from the bombing of Canterbury during 1942. To the south-west of the boundary wall, the garden loams were also sealed by coarse roof-tile and brick rubble of the 1942 air raid. This was equivalent to the roof-tile and rubble overlying pit 53 in the main excavation (Fig. 2, section 1).

DATING SUMMARY

Structure 5B overlay the remains of Structure 5A of Period 4ii. The deposits were stripped off by machine, so that only the pits produced datable material. It is likely that the structure was built around 1550.

Pits within the gardens contained pottery of a wide date-range suggesting cutting over a protracted period; pit 56 contained pottery up to *c.* 1550/1575; Pit 31, *c.* 1660–1625/50; pits 114 and 136, *c.* 1650–1700; pits 5 and 7, *c.* 1680/700–1725; pit 3, 1820/25; pit 6, *c.* 1850. The brick lining of pit 96 suggests an early eighteenth-century date, whilst that of pit 52 was of late nineteenth- or early twentieth-century construction. Of special interest from pit 7 was a group of earlier 'heirloom' pottery including a near complete Netherlands maiolica bowl (p. 106, Pl. VI) dating to *c.* 1580 to *c.* 1620.

Robber trench 4 cut pit 5, indicating a post 1750/60 construction

date for wall 4. It is, therefore, likely that walls 4 and 8 were of late eighteenth-century construction.

The latest bakehouse oven, with its brick floor, indicates that this structure continued in use until at least the early seventeenth century.

The construction trench backfill of Structure 6 contained pottery dating from *c.* 1550–75/1600, suggesting a construction date during the late sixteenth century. The mortar decay level (304) produced seventeenth-century pottery.

The substantial boundary wall indicated on the 1873 Ordnance Survey suggests that the south-west wall of Structure 6 stood until the late nineteenth century, eventually to be replaced by a brick wall (shown on the 1912 map, Fig. 1, map F) which itself was demolished after bombing of the area in 1942.

CONCLUSIONS

The bakehouse continued in use after modification into this period, undoubtedly standing behind a structure on the St. George's Street frontage. The plot of land was sub-divided by boundary walls, probably during the late eighteenth century. A number of cess- and rubbish pits were cut.

The bombing of the area during June 1942 resulted in demolition and rebuilding on a large scale.

INTERPRETATION OF SECTIONS

Section 1 (Fig. 2)

Period/Building	Description/Interpretation	Context no.
Period 1i	Buried 'topsoil	531, 532, 540
	Small clay-extraction pits	650, 694, 695
	Large clay-extraction pit and fill	577, 579, 584, 585, 597, 597B, 597C, 597D, 597E
	Post-hole	684
Period 1ii	Pits	573, 587, 612, 638, 686
	Post-holes	508
	Stake-holes	685
	General layers	473, 507, 550, 567, 596, 624
Period 2i	Pit	434
	General layer	448

Period/Building	Description/Interpretation	Context no.
Period 2ii		
Stratigraphy pre-dating Structure 2A	Clay extraction pits	610, 615
	General layers	493, 606, 607
Structure 2A	Working floors/charcoal spreads	479, 481, 485, 487
	Pebble spread	418
Stratigraphy post-dating Structure 2A	General layers	466, 477
Structure 2B	Clay floor	417
	Oven destruction layers	348, 423
	Charcoal spread	349
Stratigraphy adjacent to Structure 2B	Pit	248
Period 3i		
Structure 2C	Working surfaces	192, 245, 247, 297, 319
	Charcoal spreads	191, 194, 382
	Hearth base	385
	General layers	243, 246
Period 3ii	Yard surfaces	185, 237, 287, 292
	General layers	186, 189, 232, 244, 284, 288, 289
	Pits	187, 238, 238A, 324, 533
Period 3iii		
Structure 3	Working floors	64A, 88B, 88D, 89
	Oven	88
	Occupation loam	88A, 88C
Period 4i	Pits	93, 146, 188
	General layers	64, 79, 81, 94, 201, 278
Period 4ii	Slot	241
	Pit	53
	General layers	1, 98, 108
Period 5	Wall foundations	5
	Pit	56
	General machine-excavated layers	1

(Table continued:)

Section 2 (Fig. 2)		
Period/Building	Description/Interpretation	Context no.
Period 1i	Pits	634, 635
Period 1ii	Roman topsoil General layer	624 484
Period 2ii Stratigraphy pre-dating Structure 2A	Clay-extraction pits	610
	Post-hole	605
	General layers	493, 606, 607
Structure 2A	Working floors and charcoal spreads	481, 485, 494
	Slot	604
Stratigraphy post-dating Structure 2A	General layers	466, 477
Period 3i	Pits General layers	266, 272, 277, 356 189, 260, 261, 263
Period 4ii Stratigraphy pre-dating Structure 5A	Levelling layers beneath Structure 5A	126, 179, 180, 274
Structure 5A	Wall foundation	132, 132A
	Ovens/hearths	18, 143, 175
	Fill of Oven 18	120, 145, 151
	Clay floors	139, 142
	Occupation loam	140
	General layers	33, 38, 158, 159, 174, 657
	Pits within Structure 5A	34, 104, 112, 127, 141
Stratigraphy post-dating Structure 5A	Pits	128, 151
Period 5	Stratigraphy excavated by machine and recent concrete foundations	

Section 3 (Fig. 2)		
Period/Building	Description/Interpretation	Context no.
Period 1i	Weathered natural brickearth	681
Period 1ii	Buried Roman soil horizon?	428, 436, 447

(Table continued:)

Period/Building	Description/Interpretation	Context no.
Period 2i	General layer	419
Period 2ii	General layers	409, 430
Period 3ii	Post-hole Pits General layers	335 239, 317 322, 325, 326
Period 3iii Structure 3	Floor and layer Occupation loam Gravel layer General layer	240 223 216 203
Period 4i	General layers	92, 228
Period 5	Machine-excavated stratigraphy and recent concrete foundations	1
Section 4 (Fig. 2)		
Period 4i	Pit	310
Period 4ii	General layer	309
Period 5 Structure 6	Construction trench Wall and foundation Construction level Clay floor Decay horizon	308 312, 312A 307 306 304, 305
Stratigraphy post-dating Structure 6	Pit General layers Wall Destruction deposit	302 301, 303 311 300
Section 5 (Fig. 2)		
Period 1i	Weathered brickearth Pit	681 521

(Table continued:)

Period/Building	Description/Interpretation	Context no.
Period 1ii	Clay quarry Pits General layers	566, 566D 424, 506, 522 513, 550, 567, 596
Period 2i Structure 1	Sunken-featured building General layers	516 337, 350, 437
Period 2ii Stratigraphy pre-dating Structure 2A Structure 2A Structure 2A/2B Structure 2B Stratigraphy adjacent to Structure 2B	Gully/cess chute General layer Post-holes Oven base Occupation loam Burning in yard area General layer	444, 444A, 444B 509 562, 586 416 408 332 333
Period 3i Structure 2C Stratigraphy adjacent to Structure 2C Stratigraphy post-dating Structure 2C	Working surface General layer General layer General layer	245, 319 246 323 243
Period 3ii	Pits General layers	68, 68A, 68C, 446 232, 237
Period 3iv	Bronze smelting/casting furnace	97, 97A, 97C, 97D, 97E, 97G, 97K
Period 4i	General layers	90, 92
Period 4ii Structure 4	Floors Pits	62, 65B 51, 67
Period 5	Recent concrete foundations	

PART II: THE FINDS

A. The Pottery

M.J. Green and N. Macpherson-Grant

1. The Roman Pottery (M.J. Green)

INTRODUCTION

Roman activity at the site was relatively limited and it was decided that only a brief assessment need be made of material recovered from Periods 1i and 1ii.

Three pit groups were examined. These came from the Period 1i pit 577 and the Period 1ii pits 424 and 502. These were found to have very similar fabric ranges to groups already examined from Canterbury and environs (see below) and only a summary of the evidence is given here. The most interesting discovery was a pair of small ceramic objects (Fig. 13, nos. 1 and 2). The example from pit 577 (no. 1) is in a hard, coarsely sandy oxidised ware, of fairly crude manufacture (?local). The other, from pit 502, is in a hard, finer, micaceous fabric, again oxidised; if this is a vessel, it could not have been free-standing having a crude 'base' stump with no stability.

Full specialist ware reports for the site are withheld for future publication. Level III analyses are held in the excavation archive.

PERIOD 1i

There was little evidence of 'Belgic' or early Roman (pre-Flavian) material from pit 577 and the majority indicated a Flavian to early/mid second-century date range for rubbish disposal. Of the total assemblage of 421 sherds, proportions of 'Belgic' grogged ware (approximately 25 per cent), Upchurch-type fine grey ware (approximately 22 per cent) and Canterbury grey sandy ware (approximately 21 per cent) are comparable with figures from the 'shrine' assemblages at the Cakebread Robey site.[3] Forms occurring in Upchurch-type ware included carinated and round-bodied jars and segmental bowls and, in Canterbury grey sandy ware, lid-seated bowls and dishes, reed flange bowls and lid-seated neckless jars. Examples of all these were found in the Apsed Building in St. George's Street[4] and in

[3] M.J. Green in *The Archaeology of Canterbury*, vol. vi, (forthcoming).

[4] S.S. Frere and S. Stow, *Excavations in the St. George's Street and Burgate Street Areas*, *The Archaeology of Canterbury*, vol. vii, (Maidstone, 1983), 201, Fig. 81, nos. 60, 67, 69, 75, 78, 79, 81 and 86.

excavations in the Simon Langton Yard[5] and at Highstead.[6] Very few identifiable forms of 'Belgic' grogged ware were recovered.

BB2 accounted for approximately 1 per cent of the assemblage only, this together with the lack of later Roman Native Coarse Ware indicating that the pit probably went out of use around the mid second century.

Specialist wares included small quantities of amphorae (mostly Dressel 20), colour-coat fine wares (Lower Rhineland Fabric 1, Colchester/North Gaulish wares), mortaria (including Hartley's Fabrics 1 and 8) and samian.

PERIOD 1ii

Both pits 424 and 502 (469 and 950 sherds, respectively) contained considerable quantities of late first- to early second-century pottery, considered to be residual. Certainly much of this (especially from 424B, 502, 502B and 502C) was worn and fragmented. Though not in great quantity, both Native Coarse Ware and BB2 were found, with the latter (from 424) occurring mostly in plain pie-dish and dog-dish forms, usually associated with occupation of the later second to mid third century at Canterbury.[7]

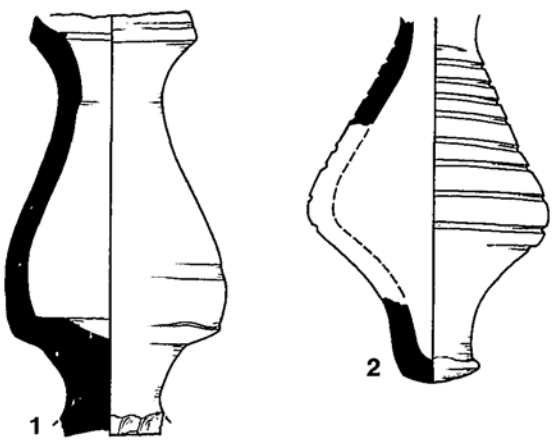

Fig. 13. No. 41 St. George's Street: Roman pottery (Scale: ½).

[5] S.S. Frere, 'The Pottery from the Simon Langton Yard site', *The Archaeology of Canterbury*, vol. v, (forthcoming).

[6] M.J. Green, 'Early Roman and Roman Highstead', (forthcoming).

[7] R.J. Pollard, in *The Archaeology of Canterbury*, vol. v, (forthcoming).

The upper backfill layers of both pits contained late third- to fourth-century material (grogged ware, BB1, Oxfordshire colour-coats and Mayen ware), indicating that each remained open to the Late Roman period. The latest backfill of 424 produced a coin of Constantius II (A.D. 330–35) and in a layer sealing this pit a further coin, dated *c.* A.D. 350–*c.* A.D. 360, was found together with fourth-century pottery.

2. *The Post-Roman Pottery* (N. Macpherson-Grant)

INTRODUCTION

As already indicated above (p. 72), ceramic evidence for early to mid Saxon occupation is minimal, whether as *in situ* or residual material. The first useful post-Roman quantities begin with Period 2ii and continue through into Period 3i, with modest groups associated with the structural sequence 2A, 2B, 2C, reflecting ninth-, tenth- and later eleventh-century occupation, respectively. With Period 3ii there is a marked increase in the amount of pottery recovered. This partly coincides with the considerable number of early to mid twelfth-century pits dug during 3ii, but an examination of the residual elements involved shows quite clearly that the beginning of this increase equates with the occupation of Structure 2C (Period 3i) and any other buildings in the adjacent unexcavated areas. This is quite in keeping with other city sites, and, together with its estimated starting point, is now a recognised phenomenon for early medieval levels, reflecting a dramatic rise in pottery production (and, therefore, demand) for the later/late eleventh century. For the later twelfth century Period 3iii) and into the early thirteenth (Period 3iv), quantities remain high – again much of it residual, but producing some useful contemporary groups, particularly for the Period 3iv phase of activity associated with the probable bell-casting pit (97). With the onset of Period 4i and the deposition of garden-type soils, totals drop and this is a trend throughout the remaining periods, though both Periods 4ii and 5 produced interesting late and post-medieval assemblages.

All of this material demands a degree of study and presentation beyond the scope of the present report. The ninth- to tenth-century material accompanying the occupation of the Period 2ii structures 2A and 2B will be discussed and figured, together with other city evidence, in a forthcoming report on the middle Saxon pottery from recent Christ Church College excavations. The early Saxon and early medieval to post-medieval information will be incorporated into future Type Series studies. In lieu of these, however, the main publishable elements are summarised below.

EARLY-MID SAXON: PERIOD 2i

One plain jar rim associated with Structure S1. The near total absence of organic-tempered pottery (from all levels) tends to support a pre-seventh century date for this structure. In spite of the possibility of truncation (p. 68), this same lack reinforces the argument for only a minimal Saxon presence during the seventh century. This may be due to purely localised disparities in the distribution of occupation.

MID-LATE SAXON:PERIOD 2ii

Rather more important is the equally low count for specifically eighth-century fabrics. Whilst there still remain some identification problems for this period, on the major Marlowe and Cakebread group of sites there really does seem to be a genuine occupational hiatus for the bulk of the eighth century – again possibly continued here.

Structure 2A produced sherds now recognised to be characteristic of the early to mid ninth century (if not somewhat earlier, i.e. possibly from *c.* 775). The level sealing Structure 2A, (446), whilst containing definitely tenth-century pottery (presumably deposited immediately prior to, or associated with, the construction of Structure 2B), also contained sherds of ninth-century date. Significantly, these were more worn than the tenth-century material, most being from a jar decorated with *repoussé* bosses, similar to that published by Frere from Canterbury Lane.[8] Frere's no. 324 was fragmentary and almost certainly somewhat residual in a group dated by accompanying Badorf-type ware to *c.* 850–950, so possibly in use early in that group's range or prior to *c.* 850. A recent pit group from St. Augustine's Abbey[9] contained parts of further boss-decorated jar, together with sherds of fine Ipswich-type ware. The jar sherds were very fragmentary and worn, so probably residual when deposited. The upper fill of the same pit contained a worn penny of Aethelbert of Wessex and Kent *c.* 838–866. Whilst the coin itself may be a late arrival, the accumulating evidence from St. Augustine's, St. Martin's Hill and other Canterbury sites implies that boss-decorated jars are a phenomenon of the early to mid ninth century. On the present site, Pit 313 (associated with the occupation of the overlying tenth-century Structure 2B) produced a coin of Aethelwulf of Wessex

[8] See note 4, 232–5, Fig. 97, no. 324.
[9] N. Macpherson-Grant, 'The Pottery', *Arch. Cant.*, ciii (1986), 105–12.

(*c.* 839–858). It is almost certainly residual in this context and probably derived from the occupation of Structure 2A, which on the above evidence ought to be within the first half of the ninth century.

LATE SAXON: PERIOD 2ii

Little pottery from Structure 2B itself, but two good groups, probably contemporary with the occupation of 2B, contain good formal parallels with late Saxon groups from the Marlowe excavations and together span the period *c.* 925–975. These are pits 248 and 313, the assemblages being designated Canterbury Key Pottery Groups LS 19 and 20, respectively. Both groups contain sherds from import-stimulated local trellis-burnished pitchers, a particular trait of most tenth-century assemblages.

EARLY MEDIEVAL: PERIOD 3ii

Only one modest pit group selected for future study: pit 235, dated *c.* 1075–1110/1125. It contains a residual Badorf-type sherd from a *Bandkeramik* storage jar, and a sherd of Andenne/North French-type yellow. Canterbury Key Pottery Group EM 46.

TRANSITIONAL EARLY MEDIEVAL – MEDIEVAL: PERIOD 3iv

One pit assemblage selected (227) representing this important innovative period in local Canterbury ceramics. It has useful formal elements dated to *c.* 1175/80–1225. Canterbury Key Pottery Group EM 45.

MEDIEVAL: PERIOD 4i

Single pit group selected (57), dating to *c.* 1240–50/75. It contains sherds from a London-type ware jug, and large pieces from a local storage jar and chimney-pot. The other formal elements involved, together with the London-type sherds are useful aids in establishing the local introduction of chimney-pots. Canterbury Key Pottery Group M 32.

LATE MEDIEVAL: PERIOD 4ii

A generally poor range of material available, but one context (63) selected. Dated to *c.* 1475/1500–1525, it contains a small but useful collection of local wares representing the transition from essentially fifteenth-century sandy wares (the end of the Tyler Hill tradition) and

the introduction of fine earthenwares. The group also contains the best part of a rather crude red ware albarello with white under-glaze slip. Examination of its fabric shows that it contains the same white inclusions that characterize the fabrics of the enigmatic Mediterranean 'mercury' jars and the seventeenth-century North Italian Pisan marbled wares – this link indicating that both the 'mercury' jars (from Canterbury) and the St. George's albarello come from north Italy, and probably manufactured near Pisa. Canterbury Key Pottery Group LM 14.

POST-MEDIEVAL: PERIOD 5

Finally two excellent very late seventeenth century/early eighteenth-century groups (5) and (7), have been reserved for future study, respectively designated Canterbury Key Pottery Groups PM 24 and 25. Both contain large quantities of kitchen and pantry earthenwares, with a rather larger bulk of the latter thrown into 5 than 7, and conversely most of the dresser and table wares went into 7. Sherds from the same vessels were present in both fills. Contemporary imports included fragments from Chinese porcelain tea-bowls, both blue-and-white and 'café-au-lait', English delft-wares (both plain white and blue-painted – including Taoist designs), and a good group of English stonewares, including large and small Nottingham or London tankards. One is certainly from London – excise stamped, with a further crowned N.O. stamp, possibly manufactured at the Gravel Lane pottery.[10] The best part of a mid to late seventeenth-century Surrey-Hampshire 'Border-ware' pipkin was also present, together with a modest range of Metropolitan-type slipwares. Rather more residual elements included Frechen stonewares, one, possibly two, Spanish olive jars, Weser slipware and specifically seventeenth-century English blue-painted delft. Of much more interest was the presence of probable Lower Rhenish slipware bowls and dishes, together with a very fine North Dutch maiolica bowl with bossed rim and polychrome decoration, an 'heirloom' piece similar to published types of *c.* 1580– 1620.[11] The group from 7 has been dated to *c.* 1680/1700– 1725, with the emphasis on the early eighteenth century, a date fully supported by the associated glassware (p. 157, Fig. 37).

[10] D. Garrod, 'A stamped Stoneware Tankard from Woolwich', *KAR*, 87, (Spring 1987), 162–3.

[11] D. Korf, *Nederlandse Majolica*, (Haarlem, 1981), Figs. 96, 97.

B. The Small Finds

P. Garrard and J.M. Elder

INTRODUCTION

The published finds are selected from the total range of material recovered, on the criteria that they either assist in the interpretation of the St. George's site, or, if taken with finds from other parts of the city, amplify wider historical, economic or social trends. In each report the unpublished material is either listed or quantified. Full details of this material are found in the Level III archive held by the Canterbury Museums. Each entry is followed by the object's small find number, context number (in brackets), period and description of the context. Where objects are considered to be possibly residual in their context, this is stated. Period dates are as follows; all dates are A.D.:

Period 1i	0–*c.* 150
Period 1ii	*c.* 150–*c.* 400
Period 2i	*c.* 400–*c.* 600
Period 2ii	*c.* 600–*c.* 1000
Period 3i	*c.* 1000–*c.* 1100/1125
Period 3ii	*c.* 1100/1125–*c.*1150
Period 3iii	*c.* 1150–*c.* 1175
Period 3iv	*c.* 1175–*c.* 1200
Period 4i	*c.* 1200–*c.* 1425
Period 4ii	*c.* 1425–*c.* 1550
Period 5	*c.* 1550–1985.

1. The Coins (I. Anderson and M. Archibald)[12]

ROMAN (I.A.)

1. Sabina (*c.* 128–*c.* 138). *Dupondius*, as RIC (Hadrian) 1022. 514 (484) 1ii Layer.
2. Caracalla. *Denarius* (198–99). RIC 22. 544 (579) 1i Pit fill.

[12] References throughout the coin reports are as follows: RIC (the relevant volumes of M. Mattingly and E.D. Sydenham, *Roman Imperial Coinage*, vols. ii, iv, part 1; vol. v, parts 1 and 2 (London, 1968); HK (P.V. Hill and J.P.C. Kent, *Late Roman Bronze Coinage*, (London, 1976); CK (R.A.G. Carson and J.P.C. Kent, *Late*

3. Postumus (259–68). As RIC 88.
   459 (318A) 2ii Pit fill. *Residual.*
4. Claudius II (268–70). As RIC 91.
   489 (414) 1ii Topsoil.
5. Tetricus I (270–73). RIC 136.
   496 (434) 2i Pit fill. *Residual.*
6. Barbarous radiate (*c.* 270–*c.* 290). *Rev.: Salus.*
   577 (516) 2i Fill of Structure 1. *Residual.*
7. Barbarous radiate (*c.* 270–*c.* 290). *Obv.*: Part of Tetricus legend. *Rev.*: Illegible.
   406 (239) 3ii Pit and fill. *Residual*
8. Allectus (293–96). As RIC 55.
   282 (202) 1ii Pit.
9. Constantius II (330–35). HK 64.
   494 (424) 1ii Pit fill.
10. Constantius II (*c.* 350–*c.* 365). Copy as CK 455.
    503 (414) 1ii Topsoil.
11. House of Constantine (335–41). As HK 87.
    59 (17) 4ii Pit fill. *Residual.*
12. House of Constantine (335–48). As HK 137.
    546 (614) 1ii Pit fill.

SAXON AND MEDIEVAL (M.A.)

13. Aethelwulf of Wessex, 839–858.
    Penny, Phase 2, *c.* 843–48, *BMC* XV(?)
    Mint: Rochester. Moneyer: Ethelhere.
    Obv.:E(DEL)VV F(R)X (? ending of legend – there does not seem to be room for the full name followed by REX). Diademed bust to right.
    Rev.:(+) E (DELH) ERE( )
    Central design illegible; if normal it is a short cross with two limbs pattées and two limbs moline.
    Wt.: 0.35 g.= (incomplete, in fragments, but mended).

Roman Bronze Coinage, part ii (London, 1976); North (J.J. North, *English Hammered Coinage, Vol. I, Early Anglo-Saxon to Henry III c. 650*, (2nd Edition, London, 1980); Barnard (F.P. Barnard, *The Casting Counter and the Counting Board*, (Castle Carey, 1917, reprinted 1981); BMC (the relevant volumes of *Catalogue of English Coins in the British Museum*, C.F. Keary, 'Anglo-Saxon Series', vol. i (London, 1887), H.A. Grueber and C.F. Keary, 'Anglo-Saxon series', vol. ii (London, 1893), G.C. Brooke and C.F. Keary, 'The Norman Kings', vol. iii (London, 1916)).

Die axis: uncertain.
Ref.: North I, 600
455 (313) 2ii Pit fill.

This coin is certainly of Aethelwulf. The only letters of the moneyer's name clearly visible are ER followed by another upright. The only moneyer with these letters in that order in his name, and also having this style of bust is Ethelhere. This was a relatively short-lived issue and appears to have been largely superseded by the type with the name of the moneyer on the arms of a cross. Except for stray survivors, they are not found in the hoards of the 860s and 870s.

14. William I, 1066–87.
Penny, 'Paxis' type (*BMC* VIII), *c.* 1083–86 (?)
Mint: Canterbury. Moneyer: Winedi.
Obv.: +PILLELM REX
Crowned bust facing, sceptre to right.
Rev.: +PINEDI ON CNTLI
Short cross pattée. P,A,X,S in quarters.
Wt.: 1.24 g. =. gr. (mended).
Die axis: ↑
Ref.: Same dies as *BMC* 568, North I, 848.
288 (203) 3iii Layer. *Residual.* (Plate VII.)

The dating of the issues of the kings William are a little uncertain, but each type was largely superseded by the next. Apart from stray survivors this type is likely to have ceased to be current by *c.* 1090–95 at the latest.

15. ?Uncertain German coin, eleventh century.
Obv.: Crowned bust facing.
Rev.: Cross pattée with motif in angles.
Wt.: 0.28 g. (fragment of about half the coin).
380 (224) 3ii Pit fill.

The straight edge appears broken rather than cut, suggesting a broken fragment rather than a cut halfpenny. The form of crown with a marked 'gable' appearance is not found on regular English coins, and suggests that this piece is German. The reverse has a solid cross pattée within the inner circle with a letter or motif in the angles. This is relatively unusual in the English Norman series, and no English regular type seems to fit the present combination of obverse and reverse. It is possible that it is a native but irregular coin (e.g. a copy of a PAXS type of William I) but a Continental coin seems more likely.

JETONS (I.A.)

16. France. Fifteenth century. Barnard (France) 52.
161 (17A) 4ii Pit fill.

17. Germany. Sixteenth century. As Barnard (Germany) 79, but with fictitious legends.
4 (4) 5 Robber trench. *Residual.*

2. *Objects of Copper Alloy* (P. Garrard with contributions from J. Cherry, D.F. Mackreth, S. Ross and L. Webster)

18. Trumpet brooch. D.F. Mackreth writes: 'The spring has an internal chord and is mounted on an axis bar held by plates behind the head. On this is a cast-on loop on a pedestal. The trumpet head has a step round its upper edge, traces of a white metal strip down the centre and a circular spot on each side. The knop is replaced here by a *pelta* whose arms are separated from a central plate by grooves. There are traces of white metal on the surface, but no pattern emerges. The lower bow has a trapezoidal section and is narrow. On each side are traces of circular white metal spots and the spacing on one side suggests that there had originally been three of them. The foot is a pseudo-penannular, its terminals being separated by a groove. The catch-plate has a buried ridge down the back of the return, which is ribbed.
511 (473) 1ii Layer.

The brooch once had applied white metal ornament in the form of beading and rosettes[13] of which only the solder remains.

The design of the brooch is, in broad terms, a common one, but in detail, there are few parallels. The group to which it belongs has a range of decorative elements which were combined to produce different effects: for instance, a foot in the form of a forward-facing plate or a biconical arrangement; and a knop in the form of a semi-circular plate, usually enamelled. Dating within the group is limited: South Shields, *c.* 150;[14] Springhead before 175;[15] Leicester before 180;[16] Scole, *c.* 150–225;[17] Verulamium, with pottery of the

[13] K.M. Richardson, 'A Roman Brooch from the Outer Hebrides, with Notes on others of its Type', *Antiq. Journ.*, xl (1960), 212, Fig. 2.31.

[14] R. Miket, *The Roman Fort at South Shields: Excavation of the Defences, 1977–81*, (Gateshead, 1983), 113, Fig. 71.84.

[15] W.S. Penn, 'The Romano-British Settlement at Springhead. Excavation of the Bakery, Site A', *Arch. Cant.*, lxxi (1957), 98, Fig. 14.5.

[16] K.M. Kenyon, *Excavations at the Jewry Wall Site, Leicester*, Reports of the Research Committee of the Society of Antiquaries of London, no. xv, (Oxford, 1948), 251, Fig. 81.1

[17] A. Rogerson, 'Excavations at Scole 1973', *East Anglian Archaeology*, Report 5, (Gressenhall, 1977), 132, Fig. 54.8.

late second and early third centuries[18] and before the late third century.[19] All these brooches are small and of a more or less standard size. Considering the larger one, the designs have a disc in place of the knop and were similarly decorated with enamel and applied white metal ornament. Dating is hardly more secure: Camerton, 90– 100,[20] Stockstadt, in a grave with a copy of a coin of Trajan;[21] Camerton, 250–280;[22] Nettleton, late third, but found with other second-century objects.[23] The emphasis in the dating of these is on the second century. Turning to other brooch types decorated with white metal *appliqué*, a technique which may have been peculiarly British, the dating is: Nettleton, late first-early second century[24] and mid second century;[25] Dover, *c.* 190–210;[26] Colchester, before 250;[27] Ilchester, late second century;[28] Canterbury, late third century[29] and Camerton, 300–380.[30]

The *floruit* of all these brooches does not seem to be obvious, but the bias of the post second-century specimens is definitely after 250 suggesting that they were all residual in their contexts. If so, the date range is distinctly in the second century with a sign that they were passing out of use during the period 175–225.'

[18] K.M. Richardson, 'Report on Excavations at Verulamium: Insula XVII, 1938', *Archaeologia*, xc (1944), 93, Fig. 4.5.

[19] R.E.M. Wheeler and T.V. Wheeler, *Verulamium, a Belgic and two Roman Cities*, Reports of the Research Committee of the Society of Antiquaries of London, no. xi, (Oxford), 207, Fig. 44.30.

[20] W.J. Wedlake, *Excavations at Camerton, Somerset*, (privately printed, 1958), 224, Fig. 51.19.

[21] K. Exner, 'Die provinzialrömischen Emailfibeln der Rheinlande', *Bericht des Römische-Germanische Kommission*, 19 (1939), 79, Taf. 10.10.I.23.

[22] Wedlake 1958, see note 20 above, 224, Fig. 51.18.

[23] W.J. Wedlake, *Nettleton, Wiltshire, 1956–1971*, Reports of the Research Committee of the Society of Antiquaries of London, no. xl, (Dorking, 1982), 128, Fig. 54.63.

[24] *Ibid.* 130, Fig. 54.68.

[25] *Ibid.* 128–30, Fig. 54.64.

[26] B. Philp, *The Excavation of the Roman Forts of the Classis Britannica at Dover, 1970–1977*, (Dover, 1981), 150, Fig. 32.73.

[27] N. Crummy, *The Roman Small Finds from Excavations in Colchester, 1971–9*, Colchester Archaeological Report 2, (Colchester, 1983), 17, Fig. 14.82.

[28] P. Leach, *Ilchester, Volume 1, Excavations 1974– 1975*, (Bristol, 1981), 247, Fig. 116.25.

[29] S.S. Frere, S. Stow and P. Bennett, *Excavations on the Roman and medieval Defences of Canterbury*, *The Archaeology of Canterbury*, vol. ii, (Maidstone, 1982), 121, Fig. 59.10.

[30] Wedlake 1958, see note 20 above, 230, Fig. 54.42.

19. Possible ear-ring, shaped in a spiral of copper alloy wire wound anti-clockwise. The shank appears to be broken where the hook for attachment should be.[31] Drawn from X-ray.
568 (597A) 1i Layer in pit 577.
20. Pin, incomplete, with simple conical head.
493 (414) 1ii Roman topsoil.
21. A similar incomplete pin. Length: *c.* 85 mm.
535/6 (613) 1ii Pit and fill. *Not illustrated.*
22. Ear-scoop with broken ring fitting. Length: 55 mm.
531 (502B) 1ii Pit.
23. Part of a hollow fitting; the tab at the end is hinged, the body has engraved radiating grooves.
488 (414) 1ii Roman topsoil.

Nos. 24 and 25 are described by Leslie Webster:

24. Ansate brooch, cast, with semi-cylindrical section. One terminal is partly broken away, the other narrows slightly to end in a beaded moulding. Similar transverse mouldings, three in all, occur at the junctions of the terminals and the bow, and a third at the bow's apex. The undecorated back has a pin-catch and pin-holder bearing faint traces of the iron pin. Length: 39.5 mm. Height: 15 mm.
408 (242A) 3ii Pit. *Residual.*
25. Ansate brooch, cast, with a flat trilobate terminal at each end, both with crudely-incised length-wise grooves, one with an additional crossing groove at right angles. Ribbed transverse mouldings define the junction of bow and terminals, and at the apex of the bow is a third moulding composed of three coarse beads. The undecorated back has a pin-holder and pin-catch; no traces of the pin survive.
Length: 49.1 mm. Height: 15 mm.
497 (392) 2ii Layer. *Residual.*

No. 24 is almost identical to an ansate brooch from the Marlowe site.[32] It belongs to Hübener's Group 9 and may be dated to the seventh to eighth century. The second brooch (no. 25), belongs to Hübener's Group 10, which is characterised by flat lobed terminals[33]

[31] For a parallel, cf. I.M. Stead and V. Rigby, *Baldock: The Excavation of a Roman and pre-Roman Settlement, 1968–72, Britannia* Monograph Series, no. 7, (London, 1986), 128, no. 202–5 and Fig. 54.

[32] No. 719 in L. Webster, 'The Saxon Brooches', *The Archaeology of Canterbury*, vol. v, (forthcoming).

[33] W. Hübener, 'Gleicharmige Bügelfibeln der Merowingerzeit in Westeuropa', *Madrider Mitteilungen*, 13 (1972), 220–1, Fig. 22.

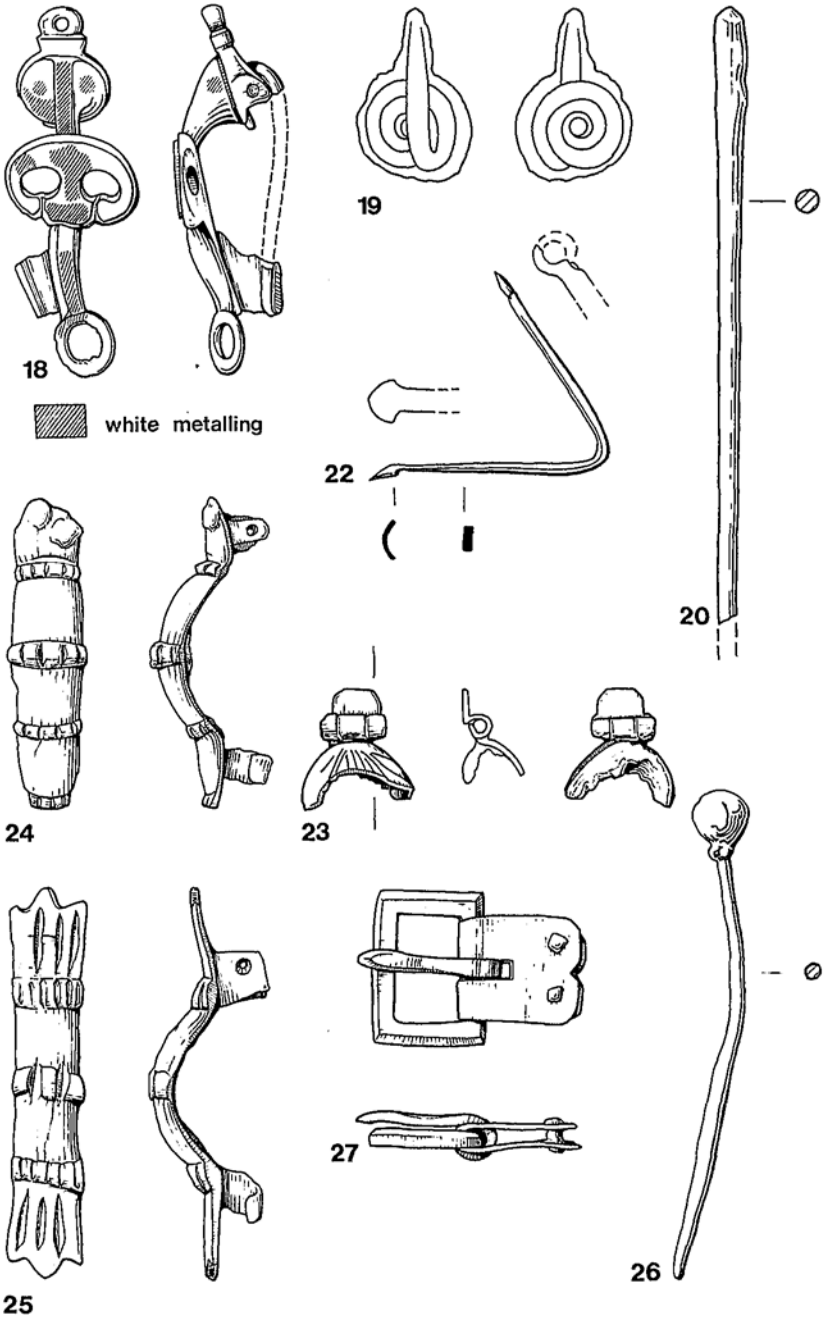

Fig. 14. No. 41 St. George's Street: Objects of copper alloy (Scale: ½).

and which is generally thought to belong to a later phase of development, current by the early ninth century.[34] In contrast to Group 9 brooches, which predominate in the coastal districts of northern France, Group 10 brooches are almost all from coastal sites in Holland, notably Domburg on the island of Walcheren. The specimen under review, however, shares with Group 9 brooches the transverse ribs which, as on the example from Old Erringham, Sussex,[35] may indicate a relatively early date within the Group 10 series, probably within the eighth century.

The number of ansate brooches from English sites has increased considerably over recent years, both through controlled excavation and by casual finds by metal-detectors. Including the present examples, a further eleven at least may be added to the approximate tally of twenty recorded in the discussion of the Marlowe examples.[36] The most recent finds continue to be predominantly of seventh- to eighth-century types and to confirm the distribution pattern outlined in the Marlowe discussion, namely that they predominate in eastern trading centres and coastal sites, with an inland scatter radiating out from these sites of import.

26. Late Anglo-Saxon pin. Seamus Ross writes: 'Ball-headed pin with a collar which impinges on the head of the pin and a shaft with gradual-confined-zone swelling. This undecorated pin is missing its very tip. Length: 62 mm. 464 (*Unstratified*).

This pin is typologically similar to other ball-head pins recovered during excavations in Canterbury, such as those from the Marlowe sites (as, for example, Marlowe IV, S.F. no. 981 or Marlowe IV, S.F. no. 625) or those from the Cakebread sites. This unstratified find belongs to a corpus of late Anglo-Saxon metalwork.'[37]

27. Buckle of rectangular section; the spike has a bulbous end. The plates attachment has a slightly fish-tail shape. There are two rivets *in situ*.
526 (444) 2ii Layer in ditch.
28. Pair of tweezers with one leg missing. Length: 46 mm. Width: 4 mm.
413 (239) 3ii Pit. *Not illustrated.*

[34] V.I. Evison, 'A Caterpillar Brooch from Old Erringham Farm, Shoreham-by-Sea, Sussex', *Med. Arch.*, x (1966), 151.

[35] *Ibid.*, 149–51.

[36] *The Archaeology of Canterbury*, vol. v, (forthcoming).

[37] S. Ross, *The typological and chronological Development of Anglo-Saxon Pins and their Use*, (forthcoming).

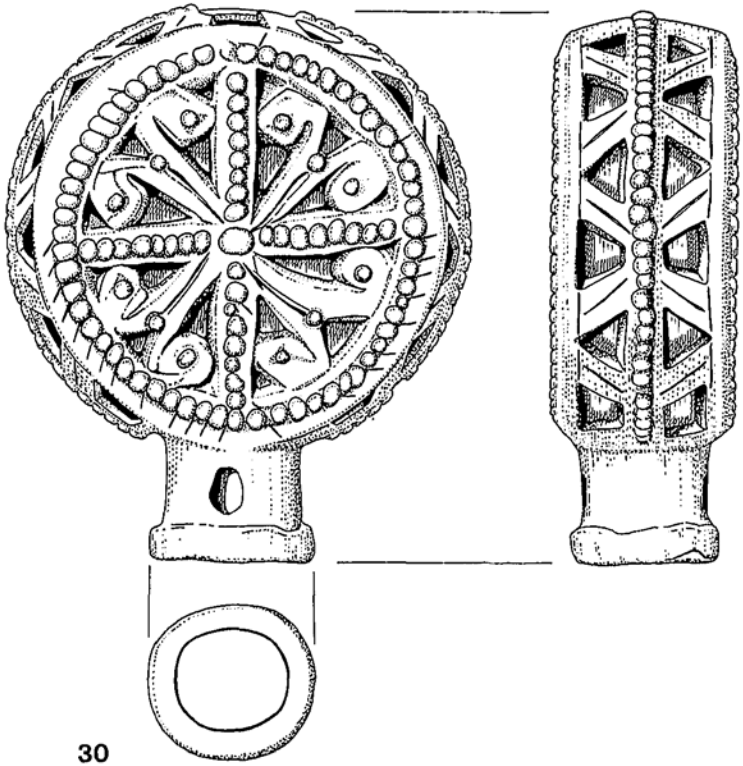

Fig. 15. No. 41 St. George's Street: The mace-head. Drawn by Eva Wilson (Scale: ½). Now in Canterbury Museums.

29. Pair of very corroded tweezers; both legs are incomplete. Part of the wire suspension ring remains. Width: 4 mm.
158 (3) 5 Pit. *Residual medieval or Roman. Not illustrated.*

30. Mace-head. John Cherry writes: 'The mace-head consists of a hollow circular top above a circular collar. It is 70 mm. high and 58 mm. wide. Each side of the circular top has a circle divided into four quarters all indicated by beading. Inside each quarter is a scroll emerging from the centre and dividing into two. Each scroll is decorated with three applied beads. The side of the circular top is divided by a line of beads into two sections each of which is divided into a series of triangles. The circular collar is pierced by two holes for rivets. These could have served to attach a wooden shaft.
332 (223) 3iii Layer, (Plate VIII)

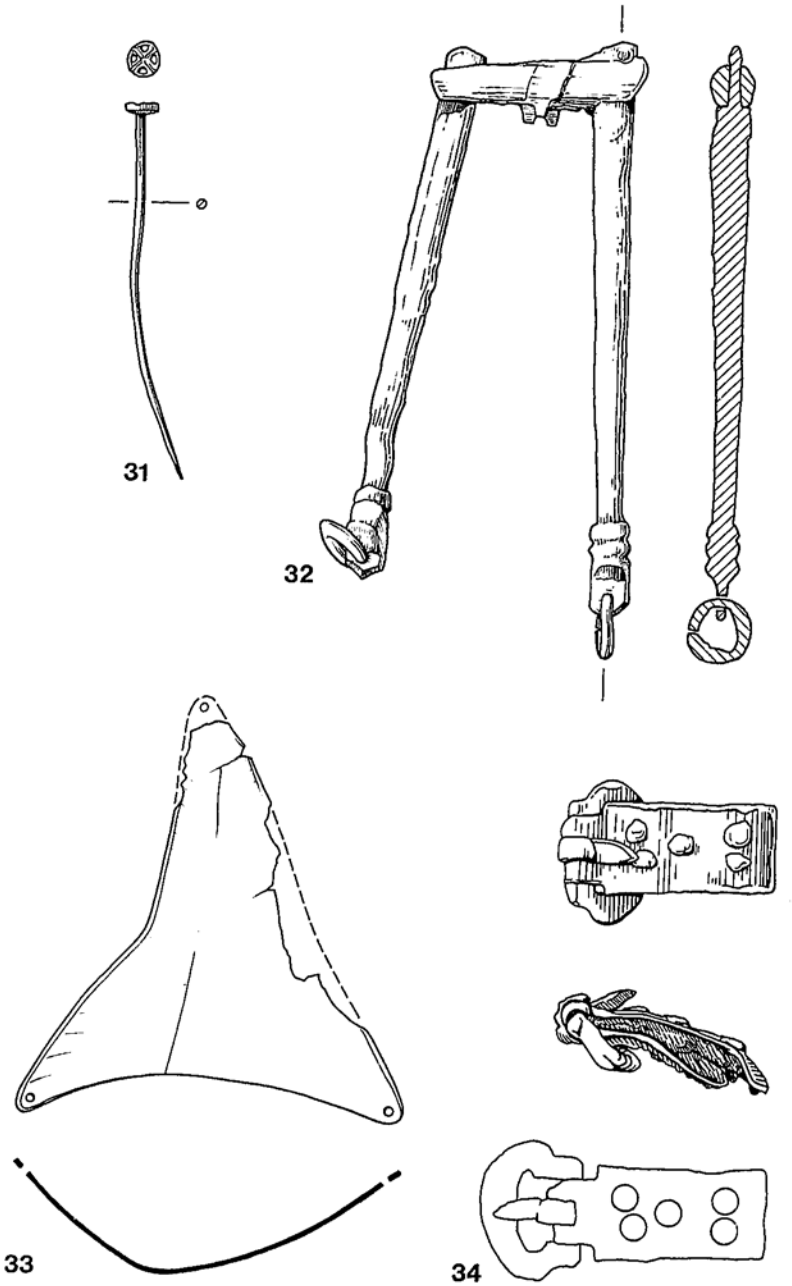

Fig. 16. No. 41 St. George's Street: Objects of copper alloy (Scale: ¼).

This mace-head from St. George's is an interesting addition to a small group of mace- or staff-heads of late eleventh- or twelfth-century date. It is particularly valuable that the St. George's example was found in a pit with associated material which dates it to the end of the eleventh century. Two staff-heads were published in the *London Museum Medieval Catalogue* (1940) and a note summarising recent finds was prepared for the Halifax Place, Nottingham, excavation report.[38] It is hoped to publish a longer study of the St. George's mace-head and more recent finds in a forthcoming volume of *Archaeologia Cantiana*.'

31. Small decorative pin. The disc-shaped head is bisected by two incised crossing lines enclosing a punched dot in each division. The shaft is inserted into a roughly gouged socket, but corrosion products obscure the method of fixing, whether solder or adhesive.
    32 (1) 5 Machine clearance. *Residual medieval.*

This pin probably dates to the eleventh or twelfth century. My thanks to John Cherry for his advice.

32. Part of a pair of folding portable scales. Length 95 mm. (when extended).
    327 (215) 4i Pit.
33. Triangular-shaped weighing pan for scales as no. 32 above. Pierced by holes at each point for the suspension thread. Now bent and in poor condition 257 (97) 3iv Furnace.
34. Buckle and strap-end plates. The spike is missing. Five rivets *in situ*. A fourteenth-century type.[39]
    305 (1) 5 Machine clearance. *Residual medieval.*
35. Strap-end with incised decoration and 'pine-apple' type terminal. A fifteenth-century type. Length: 80 mm. Width: 14 mm.
    190 (91) 4ii Pit.
36. Buckle-plate fragment with rivet hole, decorated with geometric incised design.
    210 (17) 4ii Pit.
37. Pin. The solid domed head was affixed to the shaft by an adhesive. Length: 75 mm.
    88 (17) 4ii Pit.
38. Simple clip of wire. Length: 41 mm.
    83 (17) 4ii Pit.

[38] *Trans. Thoroton Soc. of Nottinghamshire*, (forthcoming).

[39] Cf. J.P. Allan, *Medieval and post-medieval Finds from Exeter 1971–1980*, Exeter Archaeological Reports, vol. 3, (Exeter, 1984), Fig. 190.70.

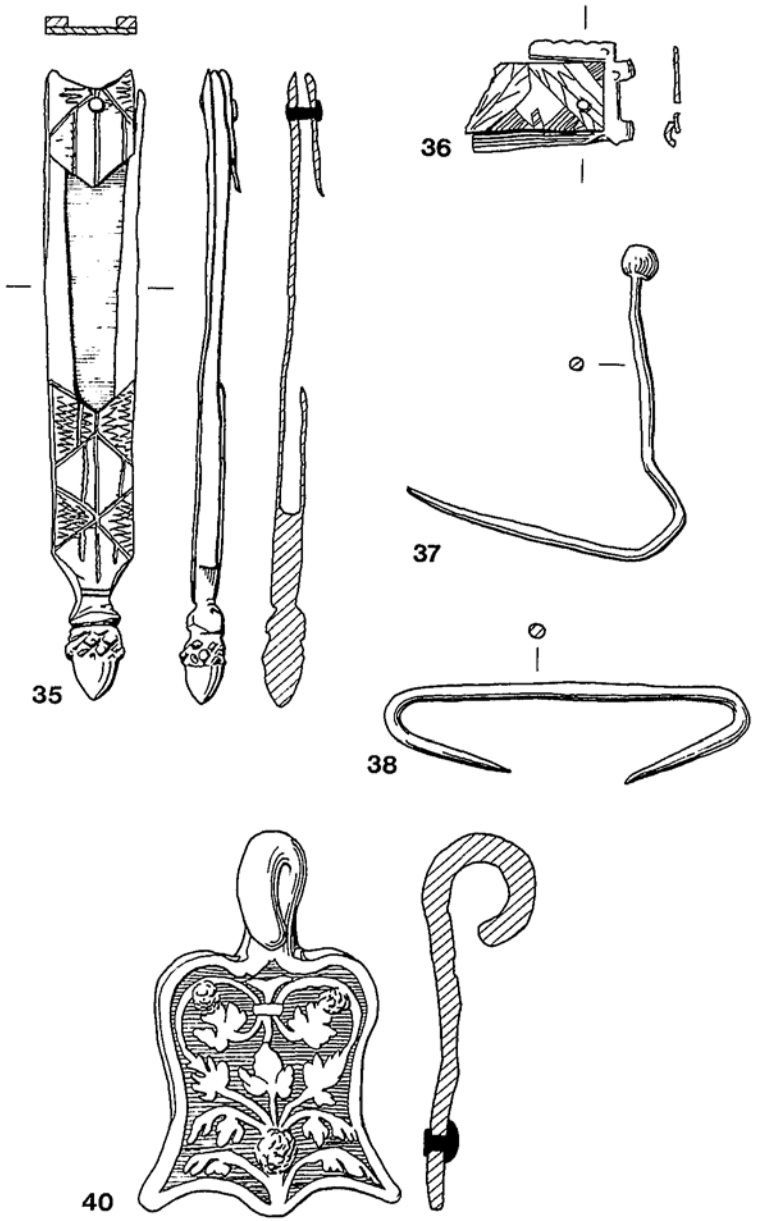

Fig. 17. No. 41 St. George's Street: Objects of copper alloy (Scale: ½).

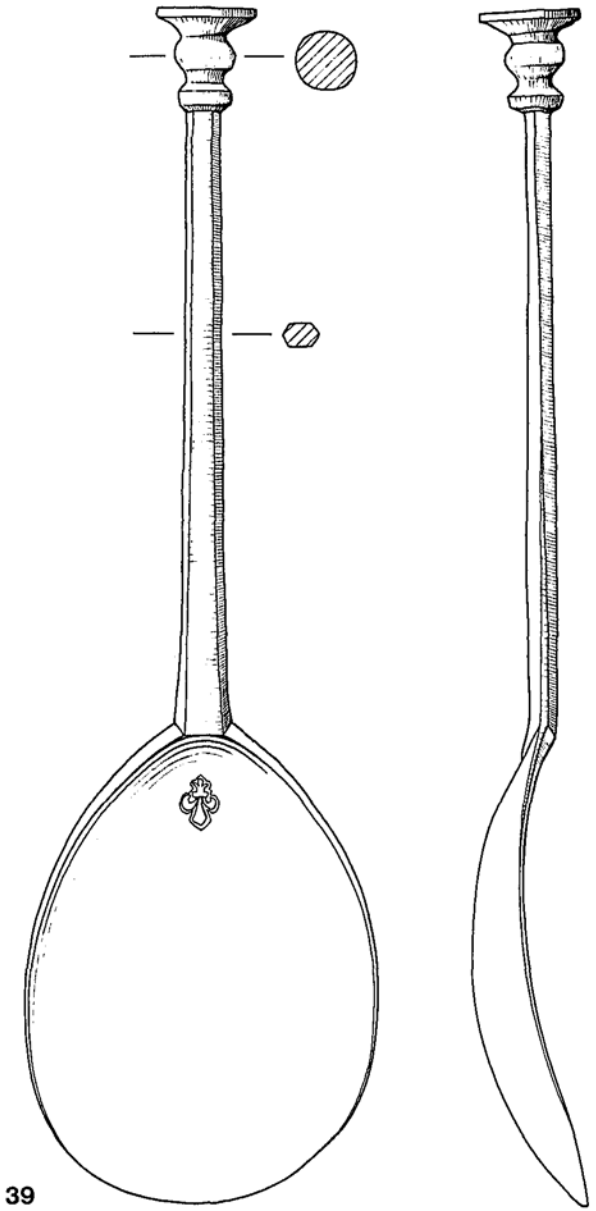

Fig. 18. No. 41 St. George's Street: Objects of copper alloy (Scale: ½).

39. Silvered copper alloy spoon. A fleur-de-lys mark is stamped in the bowl and the handle has a 'seal top' end. Last half of sixteenth century.
30 (5) 5 Pit.
40. Girdle fastener, cast with a floral design decoration. There are three iron rivet fragments *in situ*. Late sixteenth to seventeenth century.[40]
1 (1) 5 Machine clearance.

Unpublished copper alloy objects: A small fragment of a late-Roman bracelet (residual); brooch pin; ring fittings of medieval and post-medieval type; needle fragment; wire pins with loop heads; fragments of wire; laces tag-ends; tack; binding and strip fragments of copper alloy sheet; buttons with four holes and stamped maker's mark; buckle strap-plate; fitting fragment; modern era military insignia.

3. *Objects of Iron* (J.M. Elder)

165 iron objects were recovered from the excavation. Of these, only 30 per cent came from pre-Period 3 contexts.

The majority of the few finds from Period 1 contexts were loose hob-nails, probably deriving from the three near-complete soles lifted from pit (502) and layer (578). The remaining Period 1 finds were mainly structural fittings and fragments. None of the six objects recovered from Period 2 contexts could definitely be considered contemporary.

63 per cent of the finds were recovered from contexts of Periods 3 and 4. Finds from Period 5 were again few – only 7 per cent of the total assemblage.

THE CATALOGUE

Locks and Keys

41. Lever-lock key with a rectangular bit and a round bow which is broken in three places. The bit possibly has the remains of two slits. Length: 70 mm.
472 (272) 3ii Pit. *Residual Roman.*

[40] Cf. J. Baart *et al.*, *Opgravingen in Amsterdam*, (Amsterdam, 1977), 162, no. 190.

42. Ian H. Goodall writes: 'Fixed lock with damaged dished semi-circular case made from several overlapping pieces of sheet-iron, possibly brazed together. The lock mechanism, which is complete and whose bolt is in the locked position, is attached to the flat inner face of the case, which also has the keyhole and the hole into which the staple of the hasp fitted. The lock mechanism comprises a shaped mount with a pin projecting towards the keyhole, the evidence for the base of a lost ward, a hook-shaped tumbler riveted in position at one end, and a toothed bolt held by two staples. In use, a key was first inserted, its hollow tip locating over the projecting pin of the mount, and was then turned, cuts in the bit enabling it to pass wards whose purpose was to prevent the wrong key being used, and to increase the security of the lock. The bit next lifted the tumbler from the top of the bolt, before engaging on the inner side of the right-hand tooth of the bolt, pushing it into a locked position. The procedure, in reverse, unlocked the bolt and lock.

The lock is probably from a chest or some similar furnishing, and decorative nicks around the edge of the case, which retain tin-plating, imply that it was nailed to the outside rather than set, more securely, behind it in an internal housing. That it was thus mounted is confirmed by the arrangement of the sheet plates, their irregular rear edges hidden from front view. The lock could only be operated from one side, namely from the outer face of the dished part, and when mounted would have had a hasp with an angled arm, perhaps attached to a sliding bolt like that on an armoire of about 1176 in the abbey church of St. Etienne, Obazine,[41] or one from a mid twelfth-century context at Winchester.[42]

The type of mechanism in the Canterbury lock is found in an Anglo-Scandinavian lock from York,[43] and is ubiquitous among post-Conquest medieval fixed locks. A close parallel, though rectangular in shape, comes from an early twelfth-century context at Winchester;[44] most later locks have flat lock-plates.'

[41] P. Eames, *Furniture in England, France and the Netherlands from the twelfth to the fifteenth-Century*, (1977), 21–5, Pls. 10, 11 A-B.

[42] (Ed.) M. Biddle, *The Crafts and Industries of medieval Winchester*, Winchester Studies 7ii, forthcoming, COE 3558.

[43] A. MacGregor, 'Anglo-Scandinavian Finds from Lloyds Bank Pavement and other Sites', in (Ed.) P.V. Addyman, *The Archaeology of York*, 17, (London, 1982), 80–1, Figs. 42, 430, 43.

[44] Biddle forthcoming, see note 42 above, CG 689.

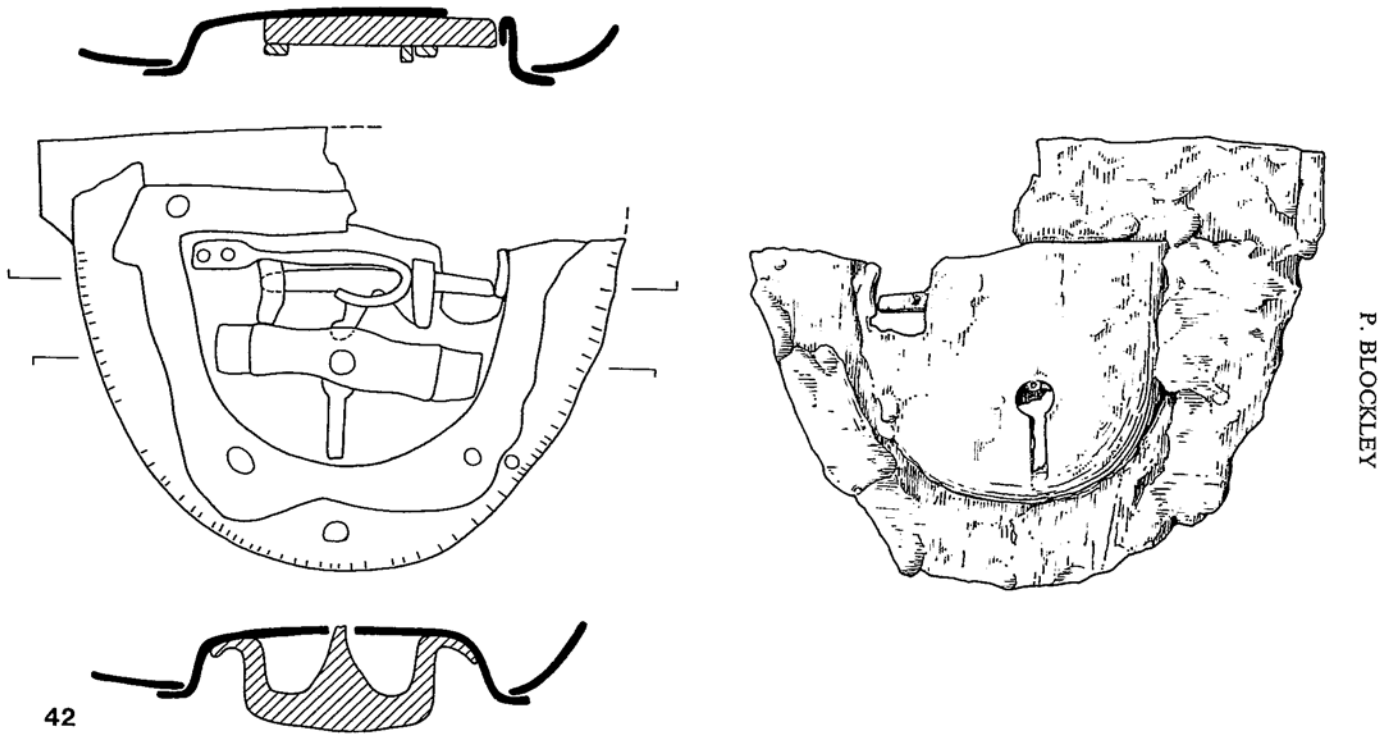

Fig. 19. No. 41 St. George's Street: Objects of iron (Scale: $\frac{1}{2}$).

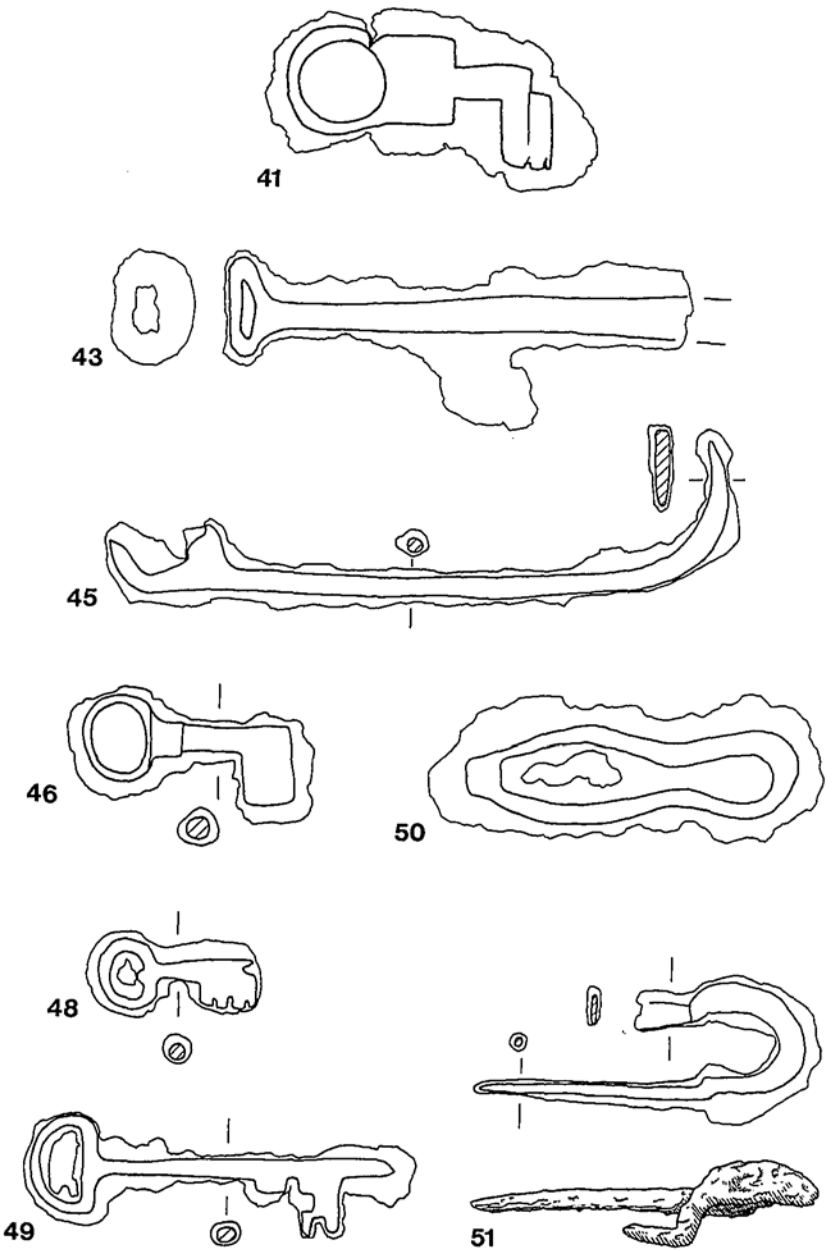

Fig. 20. No. 41 St. George's Street: Objects of iron (Scale: ½).

Depth: *c.* 117 mm. Width incomplete.
401 (235) 3ii Pit. (Plate IX).

43. Incomplete padlock key, broken at the handle end. Surviving length: *c.* 115 mm.
419 (235) 3ii Pit.
44. A similar key, 95 mm. long.
399 (215) 4i Pit. *Not illustrated.*
45. Possible barrel-padlock key with the bit and the handle both set laterally to the shank. Length: *c.* 155 mm.
55 (63) 4ii Pit.
46. Key with a circular bow, pronounced collar which may have been plated, and a simple square bit. The stem may have been circular in section and was probably hollow. Length: 55 mm.
200 (91) 4ii Pit.
47. Similar key with kidney-shaped bow. Length: 49 mm.
171 (91) 4ii Pit. *Not illustrated.*
48. Casket key with kidney-shaped bow and elaborate bit. The stem is probably solid and ends with a spur parallel to the bit. Length: 42 mm.
159 (2) 4ii Pit.
49. Key with kidney-shaped bow. The stem is solid, stepped and projects beyond the bit. The broken bit has open wards and was perhaps originally symmetrical. Length: 92 mm.
104 (17) 4ii Pit.
50. Figure-eight hasp possibly for use with a padlock. Length: 86 mm.
196 (17A) 4ii Pit.
51. Possibly part of a U-shaped padlock bolt. Length: *c.* 85 mm.
85 (63) 4ii Pit.

Knives

52. Whittle-tang knife with angled back. Length: 113 mm.
33 (1) 5 Machine clearance. Residual Anglo-Saxon or early medieval.
53. Similar, but damaged knife. Length: 115 mm.
484 (356) 3ii Pit. *Not illustrated.*
54. Whittle-tang knife. Length: 120 mm.
376 (232) 3ii Layer.
55. Whittle-tang knife. Length: 130 mm.
281 (68) 3ii Pit.

56,57. Two similar knives to No. 55 above. Lengths *c.* 85 and 77 mm.
435 & 378 (235) 3ii Pit. *Not illustrated.*

58. Tang end for a scale-tang knife. Three equidistant rivet holes

survive with one smaller one perhaps the result of a repair. One end has a nib for an end cap and the other shows the remains of a shoulder plate. Length: 57 mm.
440 (105) 4i Pit.

59. Tang end with horn plates secured by three iron rivets. Length: *c.* 115 mm.
152 (6) 5 Masonry cess-tank.

Personalia

60. Possibly the 'pointer' and one balance arm of a pair of portable scales. A hole remains at the base of the pointer arm with another for the attachment of scale pans at the end of the surviving arm. Surviving length: 75 mm.
390 (235) 3ii Pit.
61. Strap-end. Leslie Webster writes: 'Iron strap-end, the butt splayed and split for attachment by means of two rivets; these emerge at the back where their flattened shanks cross over to form a V-shape. The strap-end terminates in a schematized animal head, surmounted by two narrow transverse mouldings. A pair of similar mouldings also occurs half-way up the strap-end. The back is undecorated. The object is heavily corroded. Length: 49 mm.
456 (355) 3ii Pit. *Residual.*

Copper alloy strap-ends of this particular type, consisting of a parallel-sided central element terminating in a schematic animal-head at one end and a splayed butt for attachment at the other, are known from a number of late-Saxon sites. There is a particularly extensive series from various sites in Winchester where at least eight examples of the type have been found (unpublished). Two further examples are among the old finds from the Anglo-Saxon settlement at Meols, Cheshire.[45] Two similar pieces were excavated in post-medieval contexts at North Elmham, where it is suggested, incorrectly, that they may be twelfth- or thirteenth-century in date.[46] A better-dated example comes from the Anglo-Saxon palace at Cheddar, excavated from a ninth-century level.[47]

[45] J.D. Bu'lock, 'The Celtic, Saxon and Scandinavian Settlement at Meols in Wirral', *Trans. of the Hist. Soc. of Lancashire and Cheshire*, cxii (1960), Fig. 4b, c.

[46] P. Wade-Martins, 'Excavations in North Elmham Park 1967–1972, Vol. II', *East Anglian Archaeology*, Report 9, (Dereham, 1980), Fig. 263, 13 and 14.

[47] P. Rahtz, *The Saxon and medieval Palaces at Cheddar, Excavation 1960–62*, B.A.R. British Series, 65 (Oxford, 1979), Fig. 95, 90.

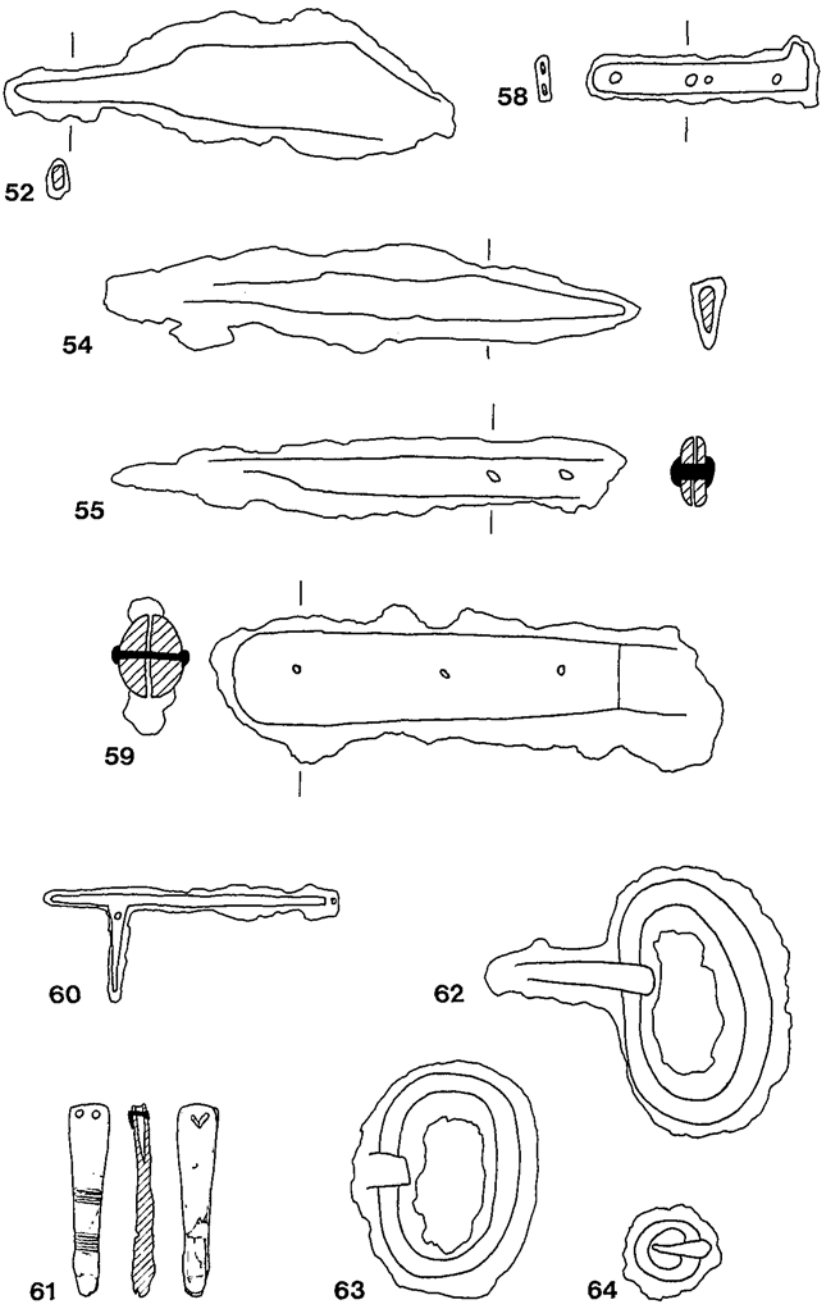

Fig. 21. No. 41 St. George's Street: Objects of iron (Scale: ½).

It bears Trewhiddle-style animal ornament on its butt-end and a slightly more elaborate animal-head at the terminal, both of which confirm the archaeological dating, placing the strap-end in the mid ninth century. Despite its slightly more sophisticated decoration there can be no doubt that this strap-end is part of the same series as the copper alloy strap-ends listed above, and that these, too, must be regarded as a ninth-century type. The Canterbury iron example must belong to the same group and date, although I am unaware of any precise parallel in ironwork for it. Anglo-Saxon iron strap-ends survive extremely infrequently in the record (a tenth- to early eleventh-century example from Cheddar is a rare exception),[48] partly, no doubt because of their inherent instability and partly because they may have escaped identification, particularly if damaged. There is thus no particular reason to suppose the Canterbury example is exceptional in terms of contemporary usage.'

Buckles

62. D-shaped buckle. Length: 64 mm.
374. (232) 3ii Layer.
63. Sub-rectangular buckle with detached pin. Length: *c.* 52 mm.
53 (63) 4ii Pit.
64. Ring-buckle with large-looped pin in place. Diameter: *c.* 17–20 mm.
108 (17) 4ii Pit.
Three similar examples with diameters ranging from *c.* 14–28 mm., came from the Period 4ii pit (91) and another from the Period 5 masonry lined cess-tank (7). *Not illustrated.*

Rowel spur

65. Blanche Ellis writes: 'This fragment consists of part of one side and stump of the other, the spur neck carrying the remains of a large rowel. The sides form a pointed crest, now damaged, above their junction with the neck, from where they project downwards and, when complete, would have curved or bent under the wearer's ankle. The longer side is of flattened D-section and appears to have tapered from its deepest part behind the wearer's heel. The neck is fairly straight, the

[48] *Ibid.*, Fig. 91, 58.

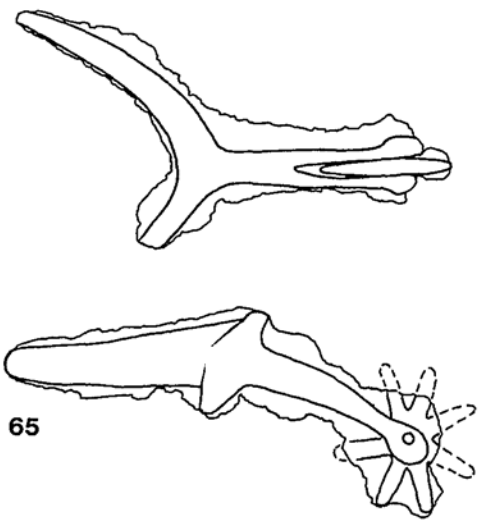

Fig. 22. No. 41 St. George's Street: Objects of iron (Scale: ½).

suggestion of a slightly drooped rowel box may be due to corrosion and burial. The section of the neck is now uncertain. The X-ray shows the stumps of eight (?) separate points on the rowel. Overall length (positioned as worn): 117 mm. Length of neck: 52 mm. Although incomplete, the broken rowel points suggest an original rowel diameter of at least 40 mm. Typological date: second half of the fourteenth century.'
56 (63) 4ii Pit. *Residual.*

Weapons

66. Artillery bolt-head with a round split socket and solid point. Length: 85 mm. Diameter of socket: *c.* 15 mm.
495 (424) 1ii Pit.
67. Barbed and socketed arrowhead, incomplete. Surviving length: 47 mm. 326 (97L) 3iv Lining of oven.
68. A similar, but incomplete, arrowhead.
368 (162) 4ii Layer. *Not illustrated.*

These were probably both hunting arrows, but the early context of no. 67 means that the possibility of a military source cannot be ruled out.

Horseshoes

69. Horseshoe fragment with three countersunk nailholes and a very slight wavy edge.
402 (235) 3ii Pit.
This is one of three possibly early medieval horseshoes recovered, the other two coming from Period 4ii pits. Three further horseshoes with plain edges and rectangular holes were recovered from Period 4i contexts (220, 105 and 92). *Not illustrated.*
70. D-shaped horseshoe nail such as was used with shoes of no. 69's type.
Length: 45 mm.
157 (1) Machine clearance. *Residual.*

Tools

71. Socketed two-pronged pitch-fork with a rivet hole at the neck of the socket. Length: *c.* 150 mm.
486 (378) 3i Pit.
72. Gouge or auger with spoon-shaped bit. Length: 118 mm.
341 (260) 3ii Layer.
73. File with a pointed end and broken at the other which may originally have narrowed to a tang for a wooden handle. Square section. Length: 178 mm.
291 (82) 4i Layer.
74. Incomplete pair of scissors with short handles and near circular loop. The pivot nail appears to be still in position.
195 (17A) 4ii Pit.
75. Sickle with broken tip and square-sectioned tang for a wooden handle, traces of which remain
138 (63) 4ii Pit.

Structural fittings

76. Incomplete flat-headed staple. Length: *c.* 95 mm.
565 (650) 1i Pit.
77. A smaller U-shaped staple. Length: *c.* 50 mm.
560 (566D) 1ii Pit. *Not illustrated.*
78. Hinge pivot with pointed shank for insertion into a wall. Length: *c.* 105 mm.
457 (313B) 2ii Pit.
79. Similar small hinge pivot with traces of wood remaining on the shank.

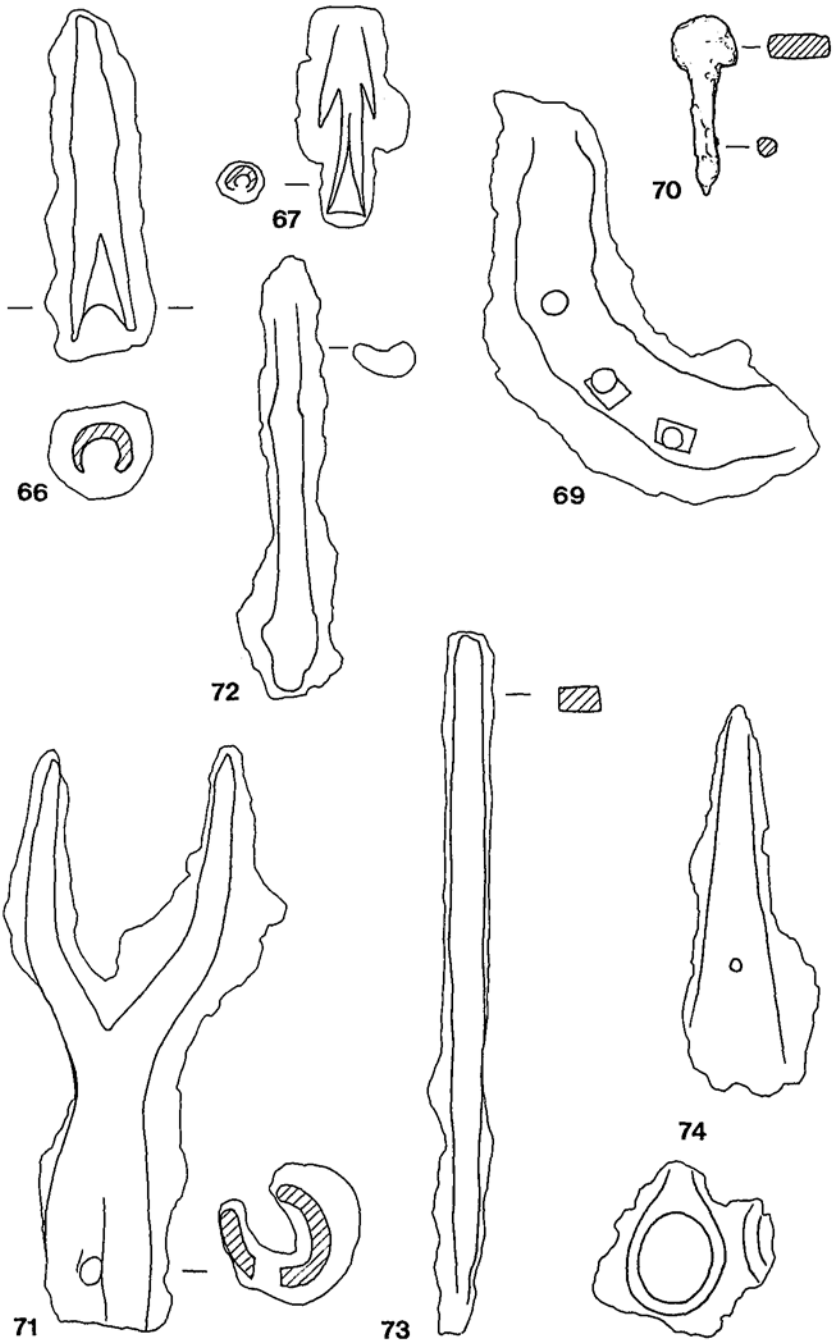

Fig. 23. No. 41 St. George's Street: Objects of iron (Scale: $\frac{1}{2}$).

Length: *c.* 54 mm.
313 (203) 3iii Layer. *Not illustrated.*

80. Large chain link. Length: *c.* 165 mm.
314 (209) 3ii Layer.
81. Bolt-head, possibly with a scalloped edge, from a square-sectioned bolt. Length: 35 mm.
392 (236) 3ii Pit and fill.
82. Carpenter's clench bolt with a lozenge-shaped rove and a round head, both slightly domed. Length: 35 mm.
377 (234) 3iii Post-hole.
83. Possible incomplete carpenter's dog. Length: *c.* 80 mm.
185 (17A) 4ii Pit.

Over 500 nails were recovered. Their occurrence in excavated features amplifies the pattern show by the iron objects and again may reflect the periods of activity on the site. Only 28 per cent came from pre-Period 3 contexts and the majority (62 per cent) came from Periods 3 and 4. Only 10 per cent came from Period 5 context.

4. Objects of White metal (P. Garrard with a contribution from G. Egan)

84. Ring brooch, incomplete. Diameter: 18 mm.
188 (105) 4i Pit.
85. Elongated tapering object with pierced hole for suspension. Possibly some sort of weight. Length: 70 mm. Weight: 120 gm.
325 (106) 4ii Small pit in Structure 5A.
86. Object similar to the above, but with the suspension loop at the top broken off. Surviving length: 63 mm. Weight: 120 gm.
237 (28) 4ii Layer in oven, Structure 5A. *Not illustrated.*

Geoff Egan writes: 'The two types of elongated leaden weight, the cast lentoid and the usually hammered pyramidal forms (nos. 85 and 86, above) are known from several excavations. Broadly similar lentoid weights have been found, mainly in urban contexts dated to the thirteenth to sixteenth century. Several examples are decorated with linear patterns or dots. These objects have been variously interpreted as fishing weights, plumb bobs, and, from possible association with leather or vellum processing, as weights to stretch these materials.[49] The apparent rarity of precise parallels for the

[49] C. Mahoney *et al.*, *Excavations in Stamford, Lincolnshire, 1963–69*, Society for Medieval Archaeology Monography 9, (London, 1982), 53, Figs 28 and 55, nos. 14–21; J. Collis, *Winchester Excavations, Vol. II, 1949–1960*, (Winchester, 1978), 56,

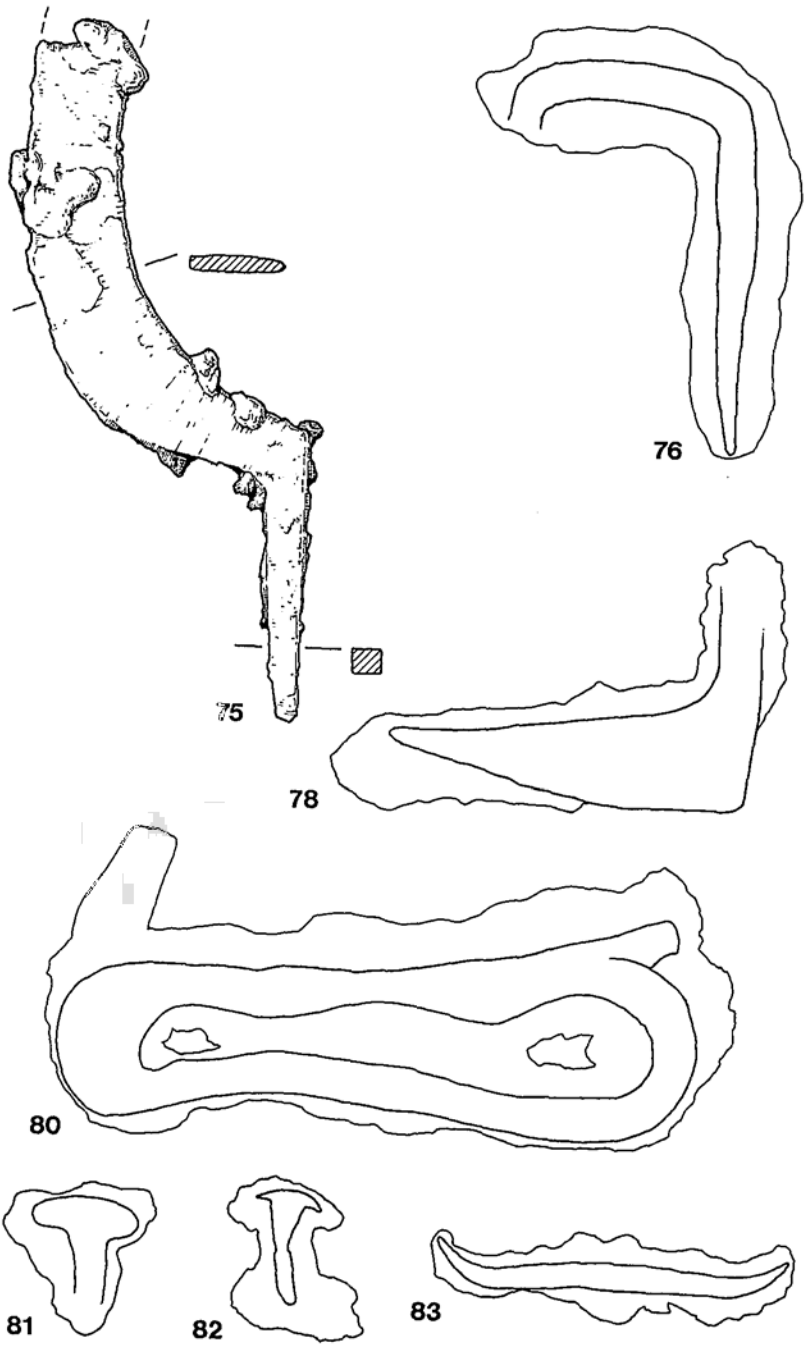

Fig. 24. No. 41 St. George's Street: Objects of iron (Scale: ½).

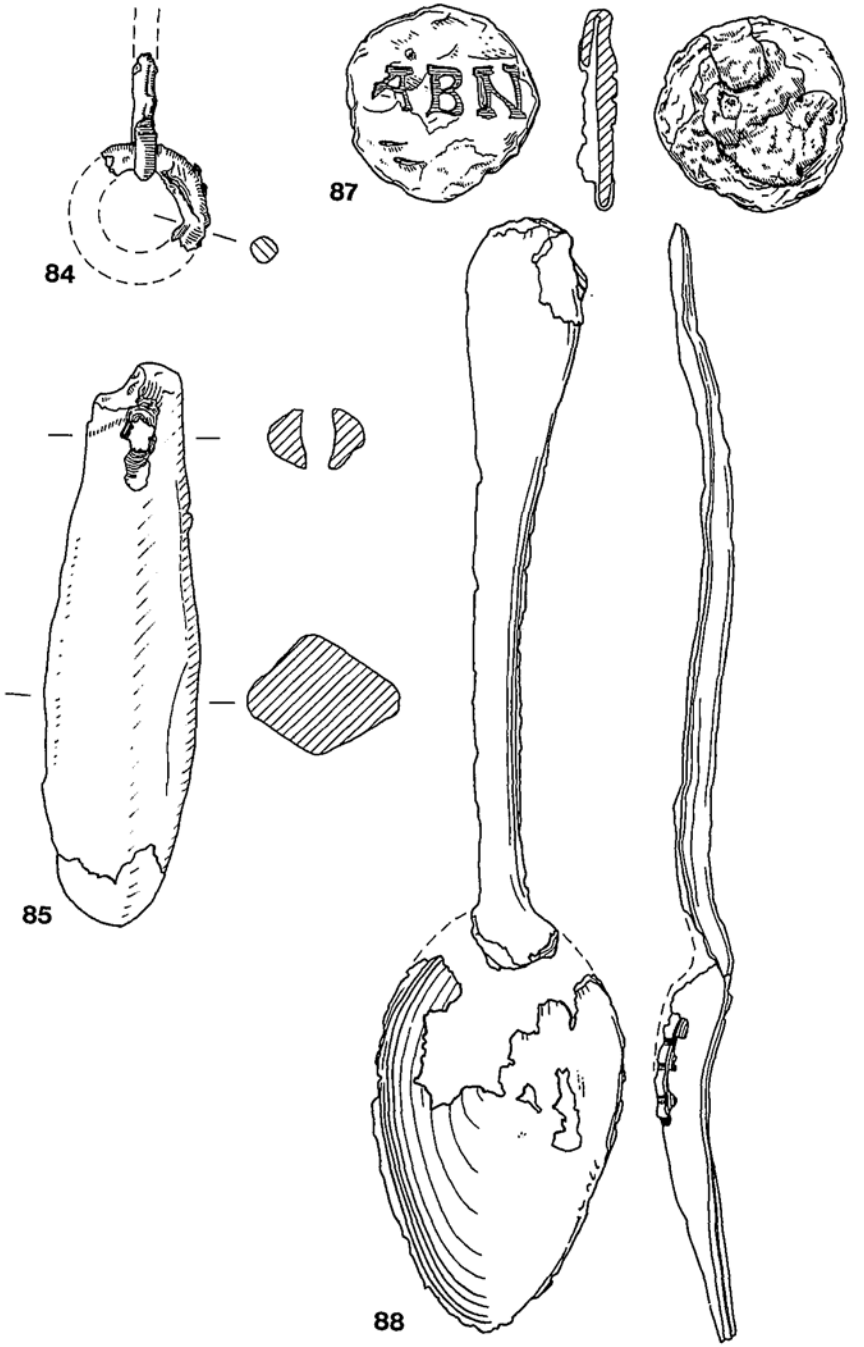

Fig. 25. No. 41 St. George's Street: Objects of white metal (Scale: ¼).

lentoid type from the River Thames in London (where different types of weights that can reliably be associated with fishing have been found in some numbers) may argue against the first interpretation, while the multiple finds make the second improbable. The decoration on some weights of this type does not rule out any of these suggestions. If the lentoid weights were all made to serve the same purpose, at present the last explanation seems the most plausible, (though any associations of further examples could provide a clearer indication in the future). The elongated pyramidal weights may have been used for nets, since the form is paralleled by several examples found in the Thames in London (private collections), and by modern fishing weights. It is possible that weights of both types may have served a range of functions.'

87. Incomplete two-disc cloth seal. Incuse ABN // (missing). Diameter: 23 mm.
22 (5) 5 Pit.

Geoff Egan writes: 'Seals of this kind were used in a system of quality control in the textile industry in the late medieval and early post-medieval periods, and more generally as labels on traded cloths in the eighteenth and early nineteenth centuries.[50] Incuse letters on some seals are thought to be initials. There are several instances of seals found in London with the same stamped personal device (privy mark, etc.) of a clothier on one disc, and different sets of incuse letters on the other disc. These letters probably indicated the particular workman (?weaver) among the labour force (paid by the clothier), who manufactured the textile to which the seal was attached.[51] Three incuse letters in a row seems to have been unusual on seals until the eighteenth century, during which there was an increase in the use of letter-and-number codes to refer to orders or consignments.[52] At

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Fig. 24.4; H. Clarke and A. Carter, *Excavations at King's Lynn 1963–1970*, Society for Medieval Archaeology Monograph 7, (London, 1977), 291; T. Tatton-Brown, 'Excavations at the Customs House Site, City of London, 1973, *Trans. of the London and Middlesex Arch. Soc.*, xxv (1974), 194 and 196, Fig. 40, 177; R.H. Jones, 'Medieval Houses at Flaxengate, Lincoln', *The Archaeology of Lincoln*, vol. xi-x, (London, 1980), 18, Fig. 16; D. Brinklow, 'Walmgate', in *Interim* (Bulletin of the York Archaeological Trust) 6, 1 (1979) 31; B. Wilson *et al.* 'Excavations in Abingdon, 56–86 The Vineyard', *Occasional Paper of Abingdon Area Arch. and Hist. Soc.* (1984), 6 and 7, nos. 1–3.

[50] W. Endrei and G. Egan, 'The Sealing of Cloth in Europe with Special Reference to the English Evidence', *Textile History* 13, 1, (1982), 47–75; G. Egan, 'Leaden Cloth Seals', *Finds Research Group Datasheet 3*, (Coventry, 1985).

[51] Cf. H. Heaton, *The Yorkshire Woollen and Worsted Industries*, (Oxford, 1965), 91–2.

[52] Cf. F. Atkinson, *Some Aspects of the eighteenth Century woollen and worsted Trade in Halifax*, (Halifax Museums, 1956), 2,–53.

present the letters on this seal appear more likely to be a trading reference code, rather than the initials of a textile worker.'

88. White metal spoon, fragmented. The handle is fiddle-shaped, the bowl pointed. Early eighteenth century.
443 (6) 5 Masonry lined cess-tank.

Unpublished lead objects: Small lead waste scraps, corroded; a water pipe and fitting from nineteenth to twentieth-century brick well.

5. *Objects of Bone, Antler and Ivory* (J.M. Elder with contributions from I. Riddler)

Nineteen bone objects were recovered from the site. This small corpus came from a spread of contexts spanning all periods. All of the objects are reported here and because a high percentage of them were in context, they are grouped primarily by period.

89. Fragment of bone pin with a wide, flat head (diameter 6mm.) and a round stem which tapers towards the break. Type A1.[53] Surviving length: 45 mm.
515 (520) 1i Layer.
90. Complete bone pin with a round head and a swelling stem. Type B1.1.[54] Length: 72 mm.
498 (424) 1ii Pit.
91. Polished red deer antler tine, sawn and roughly broken. Length: 68 mm.
575 (567) 1ii Layer.
92. Bone counter with a drilled central hole on the obverse, probably the result of manufacture. Type 1.[55] Diameter: 17 mm.
532 (502C) 1ii Layer in pit.
93. Bone counter with a slightly sunken obverse surface. Type 2.[56] Diameter: 22 mm.
476 (344) 2ii Layer. Residual Roman.
94. Highly polished cigar-shaped pin-beater or 'thread-picker' with a round section and pointed ends. Length: 150 mm.
576 (516) 2i Fill of Structure 1.

[53] S. Greep, 'Objects of Bone, Antler and Ivory', in *The Archaeology of Canterbury*, vol. v, (forthcoming).
[54] *Ibid.*
[55] *Ibid.*
[56] *Ibid.*

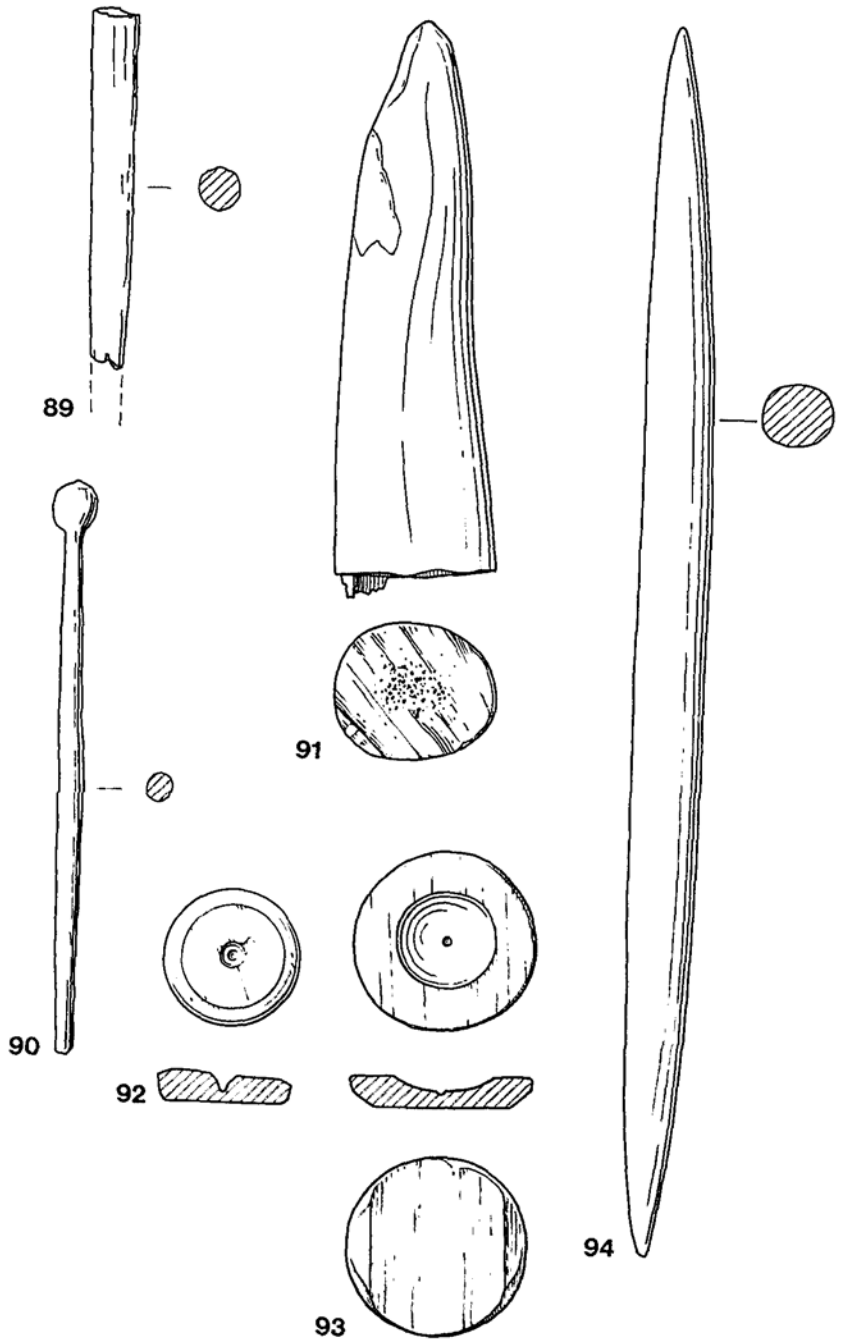

Fig. 26. No. 41 St. George's Street: Objects of bone, antler and ivory (Scale: ½).

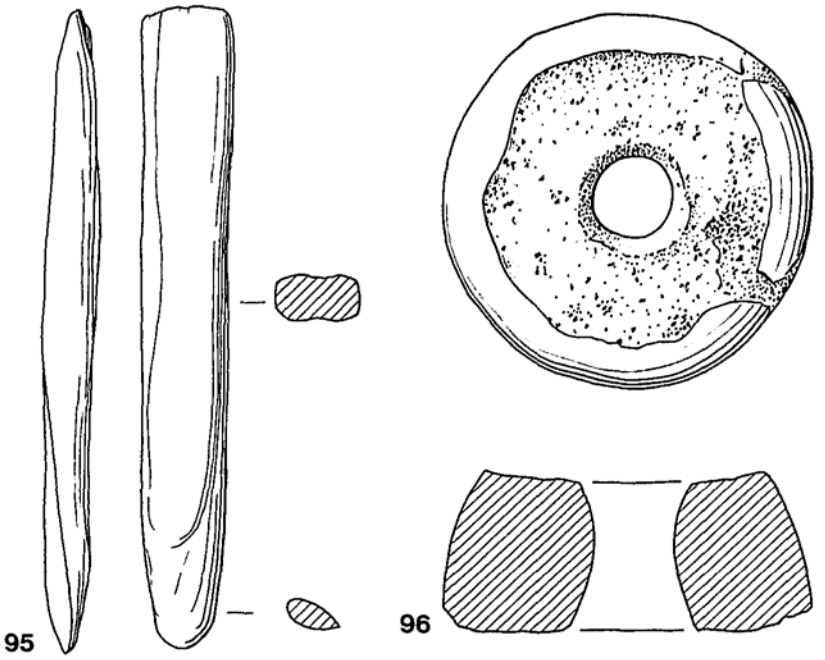

Fig. 27. No. 41 St. George's Street: Objects of bone, antler and ivory (Scale: ½).

95. Pin-beater of flatter section with one flat chisel-like end and the other pointed. Length: 79 mm.
436 (84) 4i Layer. *Residual Saxon.*

Ian Riddler writes: 'The size and form of this object can be contrasted with that of no. 94 above, which can be regarded as a typical example of an early or middle Saxon pin-beater. No. 95 belongs to a class of pin-beater of the late Saxon period. Comparable examples are known from Exeter,[57] Ipswich (unpublished), Lincoln,[58] London (unpublished),[59] Northampton,[60] Portchester,[61] Thetford,[62] York[63] and

[57] Allan 1984, see note 39 above, 195.21 and 22.

[58] J.E. Mann, 'Early medieval Finds from Flaxengate. 1: Objects of Antler, Bone, Stone, Horn, Ivory, Amber and Jet', *The Archaeology of Lincoln*, vol. xiv–i, (London, 1982), 26 and Fig. 24.209.

[59] Double-ended pin-beaters from the City of London have been published by Pritchard (F. Pritchard, 'Late Saxon Textiles from the City of London', *Med. Arch.*, xxviii (1984), Fig. 18, 9–12), but at least one unpublished single-pointed example has also been discovered. I would like to thank Frances Pritchard for her help.

other sites. The confinement of the type to the late Saxon period is further emphasised by its absence from early or middle Saxon sites, like West Stow or Hamwic.

The advent of this particular type of pin-beater may carry with it the implication that weaving practice on the warp-weighted loom altered – if only slightly – at this period. If so, then this development may have occurred in England alone, and not upon the Continent, to judge from the continuing presence of double-ended pin-beaters of bone and of wood from Arhus,[64] Dorestad[65] and Schleswig.[66] It is ironic, therefore, to note that it is within the area encompassed by these sites that developments in textile production during the first millenium A.D. have been observed.'[67]

96. Bone object made from the head of a cattle femur. Weight: *c.* 25.6 g.
    483 (248) 3i Latest fill of pit 248A.

This object may have been intended as a spindle-whorl, but the upper surface has been sliced away, both upper and lower surfaces are unfinished and the diameter of the central hole is rather large (12–17 mm.).[68] Possibly an unfinished waster.

97. Ian Riddler writes: 'An incomplete double-sided composite comb, consisting of nine tooth segments fastened by seven iron rivets to two connecting-plates. The connecting-plates and the tooth segments are made from antler. The comb is almost complete, lacking one end segment and probably one tooth

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[60] G.E. Oakley, 'The Worked Bone' in J.H. Williams, *St. Peter's Street, Northampton, Excavations 1973–1976*, (Northampton, 1979), Fig. 138.56 and 58.

[61] D. Hinton, 'Bone Finds' in B. Cunliffe, *Excavations at Portchester Castle. II. Saxon*, (London, 1975), Fig. 140.65.

[62] A. Rogerson and C. Dallas, *East Anglian Archaeology*, Report 22, (Gressenhall, 1984), Figs. 191–3.

[63] D. Waterman, 'Late Saxon, Viking and early medieval Finds from York', *Archaeologia*, xcvii (1959), 60–105, Pl. 16, 10–14.

[64] H.H. Andersen, P.J. Crabb and H.J. Madsen, *Arhus Søndervold. En byarkaeologisk undersøgelse*, (Copenhagen, 1971), 111.

[65] J.H. Holwerda, 'Opgravingen van Dorestad', *Oudheidkundige Mededeclingen uit's Rÿksmuseum van Oudehen te Leiden*, 11, (1930), Afb. 69, 19–21.

[66] I. Ulbricht, 'Die Verarbeitung von Knachen, Geweih und Horn in mittelalterlichen Schleswig Ausgrabungen in Schleswig', *Ausgrabungen in Schleswig Berichte und Studien 3*, (Neumünster, 1984), Taf. 81.6.

[67] L. Bender Vørgensen, 'North European Textile Production and Trade in the First Millenium A.D. – a Research Project', *Journal of Danish Archaeology*, 5 (1984).

[68] For a discussion of the physical properties of spindle-whorls, see G.E. Oakley and A.D. Hall, The 'Spindlewhorls' in (Ed.) J.H. Williams, *St. Peter's Street, Northampton, Excavations 1973–1976*, (Northampton, 1979), 286.

segment. Its original length would have been approximately 184 mm. The teeth are cut to different lengths and to differing thicknesses, with 6–7 teeth per centimetre on one side and 4–5 on the other.

The comb is decorated along a part of one side by a well-cut herringbone design, which is bounded at one end by four vertical lines. The ends of the connecting-plates on either side of the comb (and probably at either end, originally) have two sets of incised vertical lines as additional ornament, surrounding the end rivet of the connecting-plate. Tooth-sawing marks occur on all four connecting-plate edges.

The comb is rivetted in the standard early medieval fashion whereby the rivets are passed between pairs of tooth segments, so that each segment carries the impression of one rivet. The end segments are pierced through their centres, rather than at their edges. Tempel defined this as a Type 3 rivetting system, and I have retained the same classification in my own system.[69]

452 (248G) 2ii Layer in pit 248A.

Double-sided composite combs made from antler are the most common Anglo-Saxon comb type for the period from the sixth to the tenth centuries. No detailed analysis has yet been undertaken upon this class of Anglo-Saxon comb although some observations have been made by MacGregor[70] and by Galloway.[71] Double-sided composite combs of long and narrow proportions like the St. George's example appear to be typical of middle rather than early Anglo-Saxon England. Good examples are known from Camerton,[72] Dorchester,[73] Hamwic,[74] Richborough,[75] Walton[76] and York.[77]

[69] W.-D. Tempel, '*Die Dreilagenkämme aus Haithabu. Studien zu den Kämmen der Wikingerzeit in Nordseeküstengebiet und Skandinavien*, (unpublished doctoral dissertation, Göttingen, 1969), Abb. 27; I.R. Riddler, 'Objects of Bone and Antler', in *The Small Finds from Hamwic*, vol. 3, forthcoming.

[70] A. MacGregor, *Bone, Antler, Ivory and Horn. The Technology of skeletal Materials since the Roman Period*, (New Jersey, 1985), 92–4.

[71] P. Galloway in C. Sparey Green, 'Early Anglo-Saxon Burials from the "Trumpet Major", Allington Avenue, Dorchester', *Proc. Dorset Nat. Hist. and Arch. Soc.*, cvi (1984), 151.

[72] E. Horne, 'Saxon Cemetery at Camerton, Somerset, Part Two', *Proc. Somerset Arch. Soc.*, lxxix (1933), 39–63, Fig. 2.

[73] Galloway 1984, see note 71 above, Fig. 13.10.

[74] P. Holdsworth, *Excavations at Melbourne Street, Southampton, 1971–76*, C.B.A. Research Report 33, (London, 1980), Fig. 15.2.

[75] J.P. Bushe-Fox, *Fourth Report on the Excavation of the Roman Fort at Richborough, Kent*, Reports of the Research Committee of the Society of Antiquaries of London, no. xvi, (Oxford, 1949), Pl. LVI.216. Although described by Bushe-Fox as

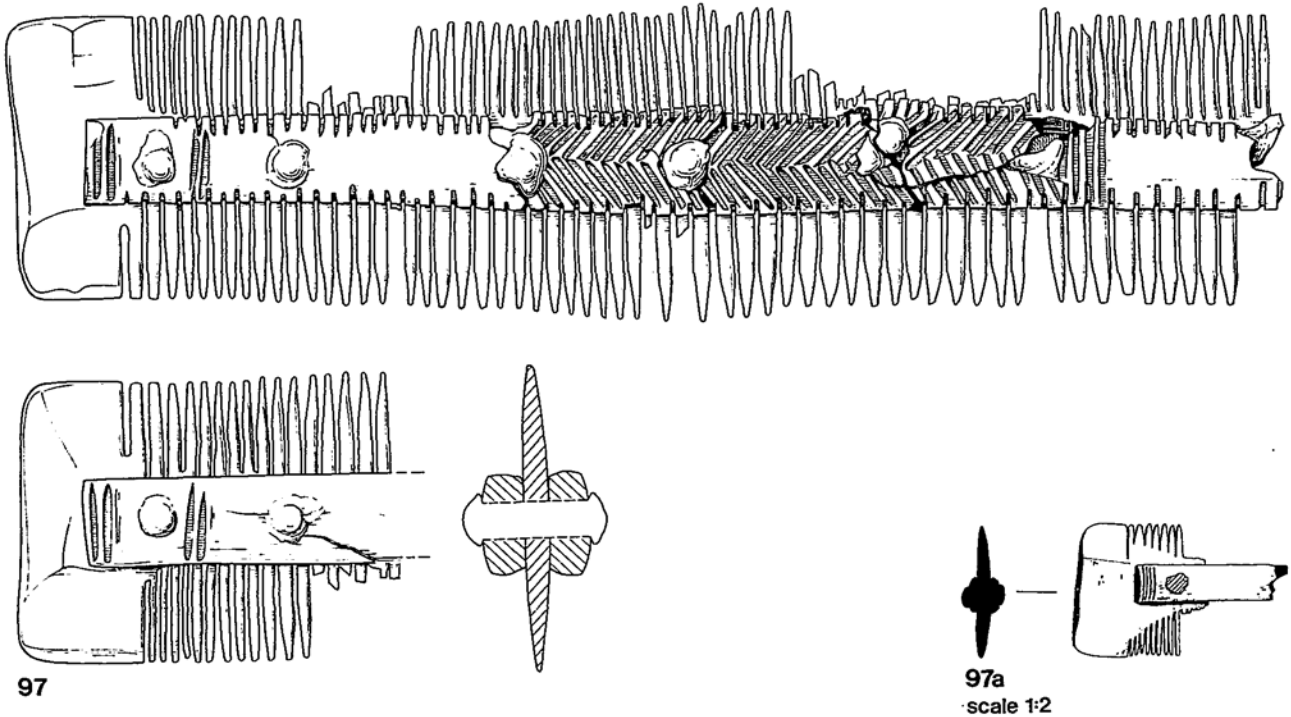

Fig. 28. No. 41 St. George's Street: Objects of bone, antler and ivory (Scale: $\frac{1}{1}$).

Whilst the slender proportions and the lengths of the St. George's comb distinguish it from earlier squatter or shorter types seen, for example at Sutton Courtenay[78] or West Stow,[79] the tooth values reflect earlier traditions. A characteristic of the middle Saxon combs described above is the even nature of their tooth values across either side of the connecting-plates. The values themselves may range from only three or four teeth per centimetre, to thirteen or fourteen; but teeth of the same or similar size are found on either side of the comb. The St. George's comb shows uneven tooth values, a characteristic more redolent of late Roman double-sided composite combs. Uneven values do occasionally occur with middle Saxon combs, however, and they are found at Hamwic and upon a fragment of a comb with a provenance of 'London Wall', now preserved in the Museum of London Reserve Collections. Although a middle Saxon date is likely for this comb, it was not considered by Vince or by Biddle.[80] It is published here for the first time (Fig. 28, no. 97A, drawn by Ian Riddler).

The cross-section of the connecting-plates for the St. George's comb is distinct from the customary plano-convex antler form. It can be compared with that for a double-sided composite comb from Bedford.[81] In its present state the St. George's comb possesses a pronounced curve to its connecting-plates, a characteristic seen also upon the comb from Walton mentioned above.[82] The curve, and possibly also the unusual cross-section, stem from the use of a curved section of antler tine or beam for the connecting-plates. Although the St. George's comb is not particularly well-made, it is nonetheless difficult to believe that it was originally intended to be bowed in this fashion. If not, it is then possible that the connecting-plates were

'a normal Late Roman type' of comb, the lack of any profiling to the ends of this comb, its relatively slender proportions and what appear to be plano-convex connecting-plates, all suggest that it is of Middle Saxon date.

[76] M. Farley, 'Saxon and medieval Walton, Aylesbury: Excavations 1973–4', *Records of Buckinghamshire*, xx (1976) 158– 290, Fig. 25.

[77] D. Waterman, 'Late Saxon, Viking and early medieval Finds from York, *Archaeologia*, xcvii (1959), 60–105, pl. XVIII.10 and 11.

[78] E.T. Leeds, 'A Saxon Village at Sutton Courtenay, Berkshire', *Archaeologia*, lxxiii (1927), 147–92, Pl. XXVIII.

[79] S. West, 'Die Siedlung West Stow in Suffolk', in (Ed.) C. Ahrens, *Sachsen und Anglesachsen*, (Hamburg, 1978), 395–412, Abb. 15.

[80] A. Vince, 'The Aldwych: Mid-Saxon London Discovered?', *Current Arch.*, 93 (1984), 311–12; M. Biddle, 'London on the Strand', *Popular Arch.*, 5 (1984).

[81] T. Elger, 'Report on the Discovery of archaeological Relics of Bedford', *PSAL*, Series 2, 12, 115–6.

[82] Farley 1976, see note 76 above, Fig. 25.

softened and straightened during the manufacture of the comb. This technique is well-established for the construction of horn combs, but the softening of antler before working remains a controversial subject. It has been forcibly argued by Zurowski and rejected by Cnotliwy; the arguments have been summarised by Ulbricht, who saw no evidence for the softening of antler at Haithabu.[83] Despite this, it remains possible that the St. George's comb was softened and straightened.

The St. George's comb cannot as yet be closely dated. Comparable double-sided composite combs first occur in the seventh century, but they continue to be produced throughout the eighth and ninth centuries, and more detailed analysis is necessary before the various characteristics, which define this comb, can be ascribed to a particular period. The herringbone decoration of the comb is certainly unusual and its restriction to one side of the comb may be of some significance. For Frisian combs the decoration of a single display side of a comb is an eighth-century phenomenon.[84] The wide-ranging development in comb design and manufacture seen upon the Continent in the ninth century have yet to be paralleled in Anglo-Saxon England, and the balance of probability must still suggest, however tentatively, that the St. George's comb belongs to the seventh or eighth century, and that it pre-dates these developments.'

98. Fragment of antler box mount decorated with a repeated ring-and-dot motif. A single rivet hole, with iron staining, breaks the ornament, indicating that it was made after the decoration. Width: 18 mm.
    343 (68B) 3ii Pit.
99. Similar fragment of antler box mount decorated with ring-and-dots identical to those on no. 98 above. The piece is wider (22 mm.), but the remains of a rivet hole appears 9 mm. from the end, corresponding with the placing of the rivet hole on no. 98. This perhaps indicates that both pieces decorated the same box.
    311 (209) 3ii Layer subsiding into pit 6.
100. Fragment of plain bone mount with two rivet holes. Length: 80 mm.
    263 (96) 5 Pit and fill. Possibly residual Saxon/early medieval.

[83] I. Ulbricht, 'Die Geveihverarbeitung in Haithabu', *Die Ausgrabungen in Haithabu*, Siebenter Band, (Neumünster, 1978), 46–50.

[84] W.-D. Tempel, 'Unterscheide zwischen den Formen der Dreilagen kämme in Skandinavien und auf den friesischen Wurten vom 8 bis 10 Jahrhundert', *Archäologischers Korrespondenzblatt*, 2 (1972), 57–9.

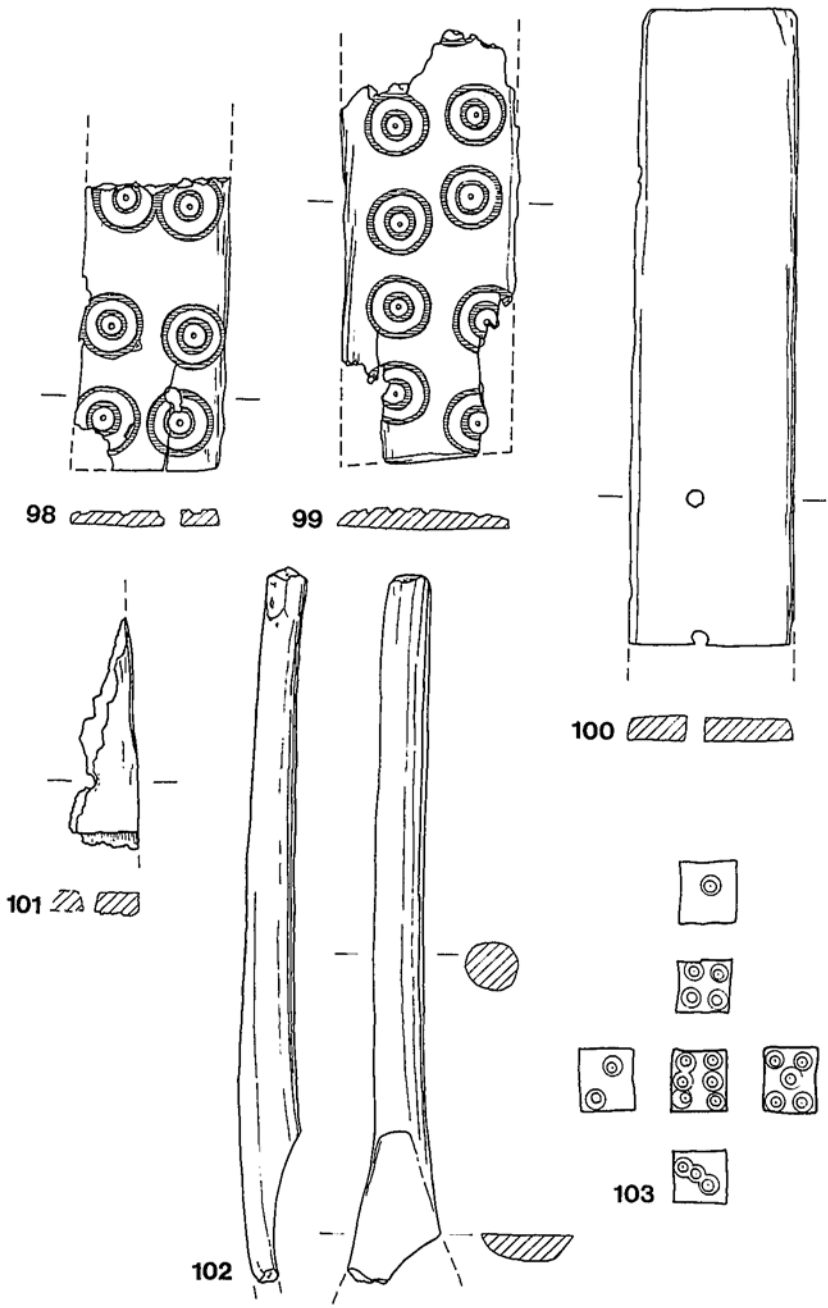

Fig. 29. No. 41 St. George's Street: Objects of bone, antler and ivory. (Scale: ½).

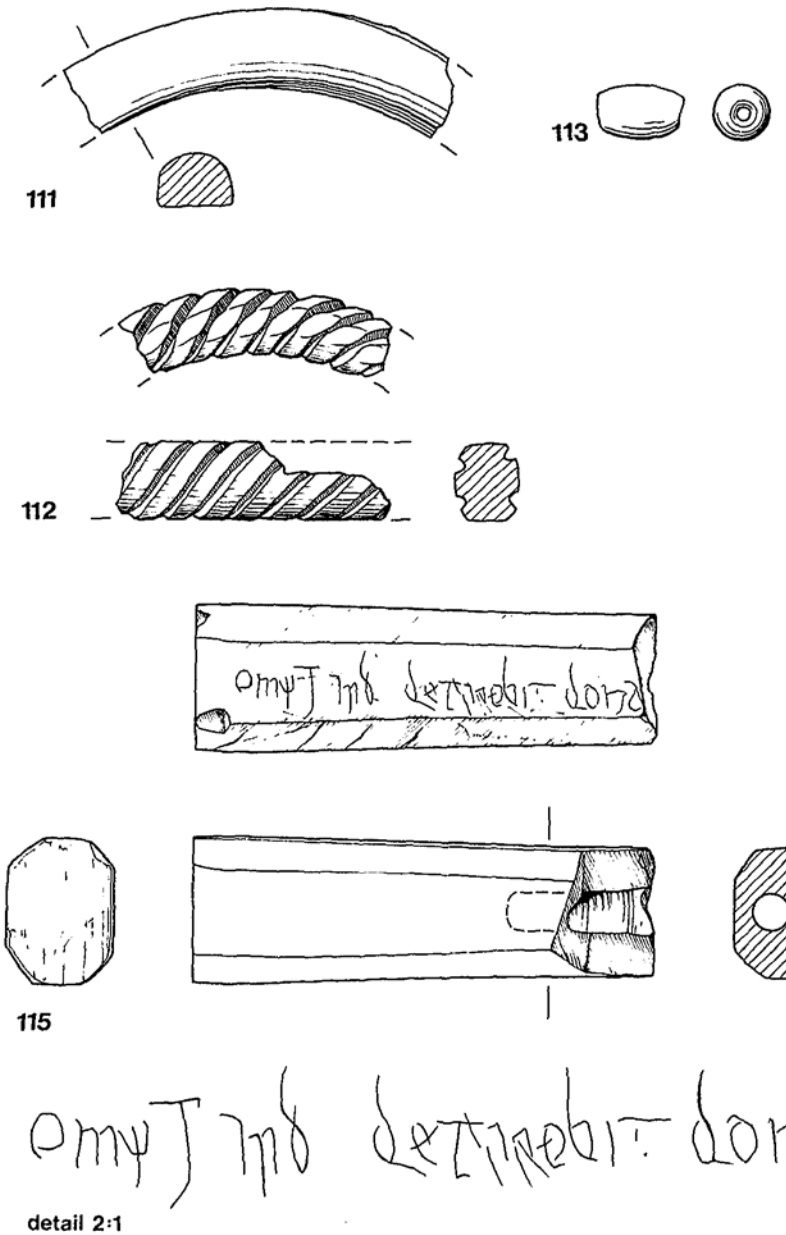

Fig. 30. No. 41 St. George's Street: Objects of bone, antler and ivory (Scale: ½).

101. Small fragment of worked bone with a drilled perforation. Possibly the remains of a mount.
286 (78) 4i Pit.

102. Fragment of a bone spoon with a simple straight round-sectioned handle (70 mm. long) and a broken bowl which was probably flat and spatulate.[85]
388 (236) 3ii Pit and fill.

103. Bone die with ring-and-dot markings. Slightly asymmetrical, one axis being longer (7–8 mm.) than the rest (6 mm.). The configuration of the sides is the common one of opposites totalling seven.
269 (73) 4i Layer.

Dice of this type are common from Roman times onwards. It is, therefore, difficult to be sure of the residuality or otherwise of this find.

104. Bone handle probably for cutlery as the visible corroded iron was shown by X-ray to be the remains of a tang and bolster. Length: 80 mm.
23 (5) 5 Pit.

105. Ivory handle for a tanged object. Length: *c.* 60 mm.
8 (5) 5 Pit.

106. Incomplete decorated stem fragment, possibly part of a *ligula* or combination of a *ligula* and tweezers of post-medieval date.[86]
Length: 52 mm.
11 (4) 5 Robber trench.

107. Sawn bone ring. Possibly scrap or raw material intended for further working.
445 (6) 5 Masonry-lined cess-tank.

6. The Spindle-whorls (J.M. Elder)

Three clay spindle-whorls and a fourth, possibly unfinished, bone example (see no. 96 above) were recovered from the excavations. Taken together with the bone tools (nos. 94 and 95) this group of artefacts may indicate spinning and weaving activity in the vicinity during the Saxon and early medieval period and again in the sixteenth

[85] For similar tenth- and eleventh-century examples from Winchester, see J. Collis and Birthe Kjølbye-Biddle, 'Early medieval Bone Spoons from Winchester', *Antiq. Journ.*, lix (1979), 384 and Fig. 4a, 4b.

[86] Cf. *The Archaeology of Canterbury*, vol. v, (forthcoming). My thanks to Dr Stephen Greep for advice on this object.

century. No. 109 is almost certainly residual in its Period 4ii context, leaving the stoneware whorl as the only indication of later spinning activity.

108. Fired clay conical spindle-whorl in a burnished fine sandy grey fabric. Diameter: 30 mm. Weight: 24.1 g.
409 (242B) 3ii Pit and fill.
109. Fired clay biconical spindle-whorl, decorated with four concentric rings on the upper surface and two on the lower. Diameter: 28 mm. Weight: 13 g.
407 (132B) 4ii Layer. *Probably residual Saxon.*
110. Globular stoneware spindle-whorl with six decorative grooves. Diameter: 24 mm. Weight: 12 g.
186 (17A) 4 ii Pit.

Stoneware spindle-whorls are known from a number of sites in Britain and are generally considered to have been imported from the Rhineland in the sixteenth century.[87]

7. Objects of Shale, Jet and Stone (P. Garrard with a contribution from A. Oakley)

111. Fragment of shale bangle of D-section. Diameter: 46 mm.
342 (68B) 3ii Pit. *Residual Roman.*
112. Shale bangle fragment with deep diagonal grooving. Sub-rectangular in section. Diameter: 38 mm.
481 (344) 2ii Layer.
113. Cylindrical jet bead. Length: 10 mm. Diameter: 5 mm.
220 (91) 4ii Pit.
114. Part of a medieval pedestal type cresset lamp of Caen stone. The broken bowl shows reddening from the heat produced by the lighted wick floating in oil, and which also left a patch of soot at the inner edge of the rim. Height: 105 mm. Diameter of base: 60 mm.
140 (54C) 4ii Layer in pit 54.
115. Octagonal polished handle, tapering from the butt end to the broken end where there is a drilled hole for insertion of a tanged implement. Diagonal filing marks are just visible on the panels; the tang socket retains its drill marks. There appears to

[87] Cf. S. Moorhurst and J. Hurst, 'An Imported Stoneware Spindlewhorl with some preliminary Comments on Stoneware Spindlewhorls found in England, their Dating and Origin', *Trans. London and Middlesex Arch Soc.*, xxxii (1981), 124–8.

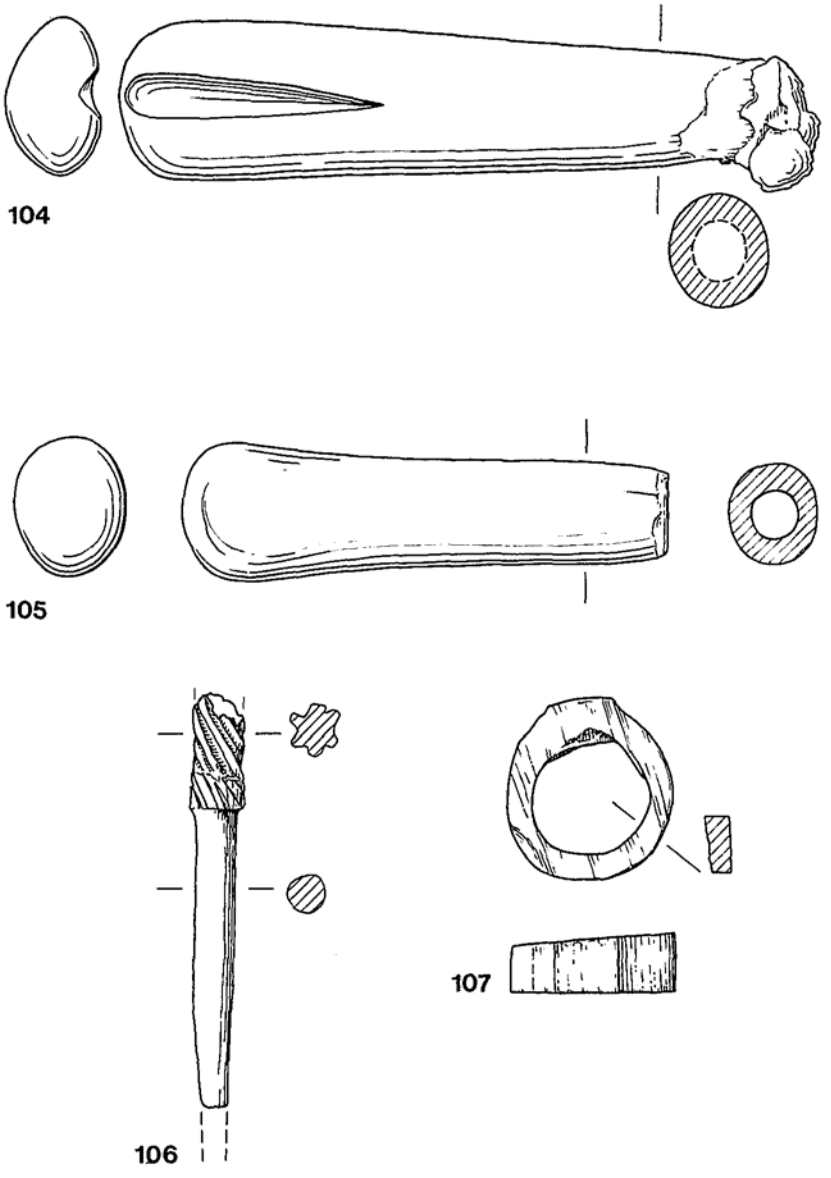

Fig. 31. No. 41 St. George's Street: The Spindlewhorls (Scale: ½).

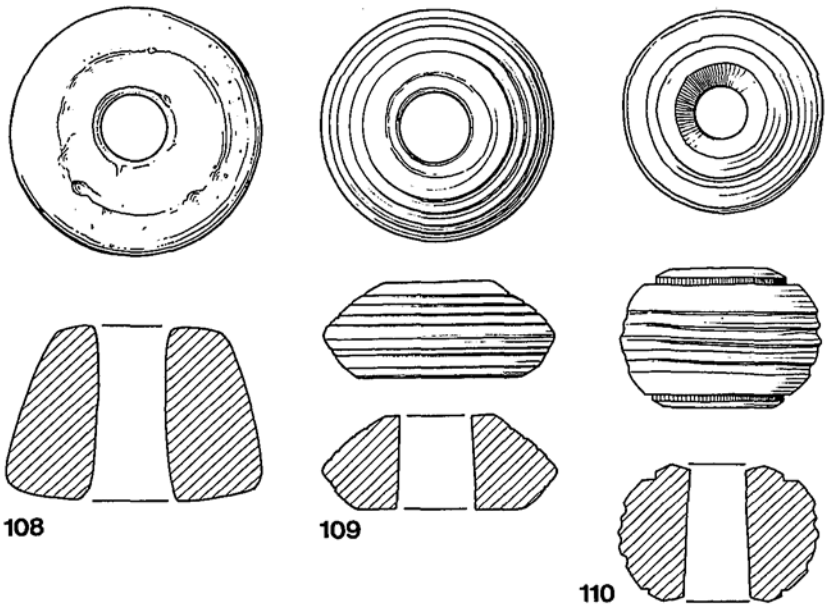

Fig. 32. No. 41 St. George's Street: Objects of shale, jet and stone (Scale: ¼).

be little wear. Sixteenth century. Remaining length: 59 mm. 379 (259) 4i Layer. *Intrusive.*

One of the panels bears graffiti. Ann Oakley writes: 'The letters appear to read: *emmp Johi de dec. .ebr dona*; that is extended: *emmpta Johanni de dec. .ebr dona*, which might mean that the implement or the handle was bought for John de dec. .ebr, and was a present or gift. *Emmpta* is normally spelt with a single m, but allowances must be made for errors and variations. There are no contraction marks.'

The stone was identified by R. Sanderson, of the Geological Museum, as a dark impure limestone, possibly from the Continent (although there is a source in mid-Kent).

Unpublished stone objects: Fragments of marble veneer; several fragments of quernstones, not large enough for measuring, of Niedermendig lava, lower greensand and millstone grit; a flint flake; piece of architectural Caen stone; piece of a double moulding of Caen stone; a broken ashlar Caen stone; a partly dressed and damaged column fragment of Reigate stone; small chalk block with worn socket; small squared chalk block.

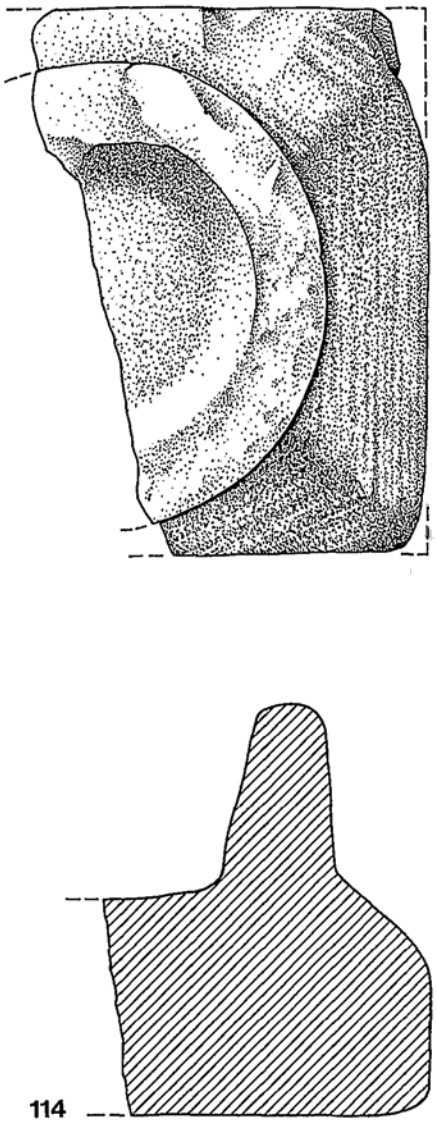

Fig. 33. No. 41 St. George's Street: Object of stone (Scale: ½).

8. Objects of Glass (P. Garrard and J. Shepherd)

116. Faience 'melon' bead fragment. Diameter: *c.* 14 mm. × 10 mm.
539 (613) 1ii Pit.

117. Fragment of a similar bead to no. 116 above. Diameter: *c.* 6 mm × 13 mm.
389 (233) 3ii Layer. *Residual Roman. Not illustrated.*

118. Small cylindrical bead, translucent, turquoise colour. Length: 3 mm. Diameter: 2.5 mm.
580 (248H) 2ii Pit. *Residual Roman.*

119. Drawn square-sectioned opaque yellow glass rod. This appears to be a small piece of waste from jewellery or bead manufacture. Indeterminate date.
594 (417) 2ii Clay floor.

120. Thin twisted glass rod. Turquoise glass with thin spiral of yellow. Function unknown. Possibly a fine pin. Date unknown.
487 (403) 2ii Layer.

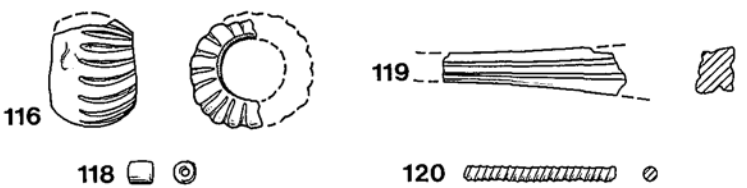

Fig. 34. No. 41. St George's Street: Objects of glass (Scale: ½)

C. The Glass

John D. Shepherd

INTRODUCTION

Five hundred and eight individual items of glass, ranging from complete and almost complete post-medieval bottles and drinking vessels to just small splinters of Roman, medieval and post-medieval date, were found on the site.

Of these, twenty-five (nos. 1–25) are positively Roman in date, six (nos. 26–31) are late medieval vessel glass fragments and eight

(nos. 31– 39) are medieval window-glass fragments. The remainder, except perhaps the five glass objects (see The Small Finds, nos. 116–120) are post-medieval, primarily from the late seventeenth through to the mid nineteenth century.

Three hundred and eighty-four fragments are catalogued below under the headings of Roman, Medieval and Post-Medieval glass. Details of the remaining one hundred and nineteen fragments are housed in the excavation archive. The Roman glass is arranged according to metal colour (i.e. Monochrome, Colourless and Naturally Coloured), followed by window-glass fragments of that date. The medieval and post-medieval vessels and fragments, however, are arranged according to functional forms (i.e. bottles, drinking vessels, etc.) since there is little variation in this group in particular metals. Each entry is followed by the context number (in brackets), period and description of the context. Fragments clearly residual in their context are indicated.

THE ROMAN GLASS

Monochrome

1–5. Five fragments, apparently from the same vessel, belonging to the neck and part of the shoulder of a flask (Isings 1957, 69, Form 52, 72, Form 55).[88] Free-blown; amber coloured glass. Thin cylindrical neck. The body appears to be of a flattened bulbous form. No decoration is visible. Late first or early second century.
(599), (585) × 1i Layers in pit 577.

6. Fragment from the handle of a flask, probably of the same form as nos. 1–5 above. Applied to a, probably, free-blown form. Dull amber glass. Late first or early second century.
(584) 1i Layer, backfill of pit 577.

7. Fragment as for no. 6. The 'grip' consists of four pronounced vertical ribs. Late first or early second century.
(533) 3ii Fill of pit. *Residual.*

8. Fragment of amber glass from an indeterminate form. Late first or early second century.
(578) 1i Layer in pit 577. *Not illustrated.*

[88] C. Isings, *Roman Glass from Dated Finds*, (Groningen, 1957). Form types throughout the following Roman glass report are taken from this work.

Colourless

9. A small fragment of good colourless glass from an indeterminate form. Roman.
(502B) 1ii Layer in pit 502. *Not illustrated.*

Naturally Coloured

10. Fragment from part of the rim and neck of a bottle, possibly a flask (as nos. 1–5 above or, as a bottle, Isings 1957, 63–9, Form 50/51). A blown form, possibly with mould-blown body; bluish-green glass. Rim folded inwards and flattened. Late first or second century.
(544) 1ii Layer.

11. A small fragment from the base of a square-sectioned bottle (Isings 1957, 63–5, Form 50). Mould-blown; thick greenish-blue glass. Part of just one high relief circle of the base design survives. Late first or second century.
(73) 4i Layer. *Residual. Not illustrated.*

12–13 Two fragments from the bodies of mould-blown square-sectioned bottles (form as for no. 11). Late first or second century.
(355) 3ii Layer in pit 361, (468) 2ii Layer in yard of S2B. *Residual. Not illustrated.*

14. Fragment from a bottle or either cylindrical or square-sectioned form. Form as for no. 10. Late first or second century.
(235A) 3ii Pit fill. *Residual. Not illustrated.*

15. Fragment from the neck of a flask (form as for nos. 1–5). Free-blown; good, natural blue colourless glass. Cylindrical neck. Late first or early second century.
(489) 2ii Post-hole. *Residual. Not illustrated.*

16. Fragment from the body of a bulbous bodied flask (Isings 1957, 69, Form 52/55) or jar (Isings 1957, 88, Form 67c). Free-blown; decorated with vertical ribs of the same greenish-blue colourless metal. Late first or early second century.
(597B) 1i Layer in pit 577. *Not illustrated.*

17–18 Two fragments as for no. 16. Both are from the same vessel, but different from no. 16.
(599) 1i Layer in pit 577. *Not illustrated.*

19. Fragment from the rim of a cup or bowl (Isings 1957, 102, Form 85b). Free-blown; bluish-green glass. Rim thickened, fire-rounded and sloping slightly inwards. Late second or third century.

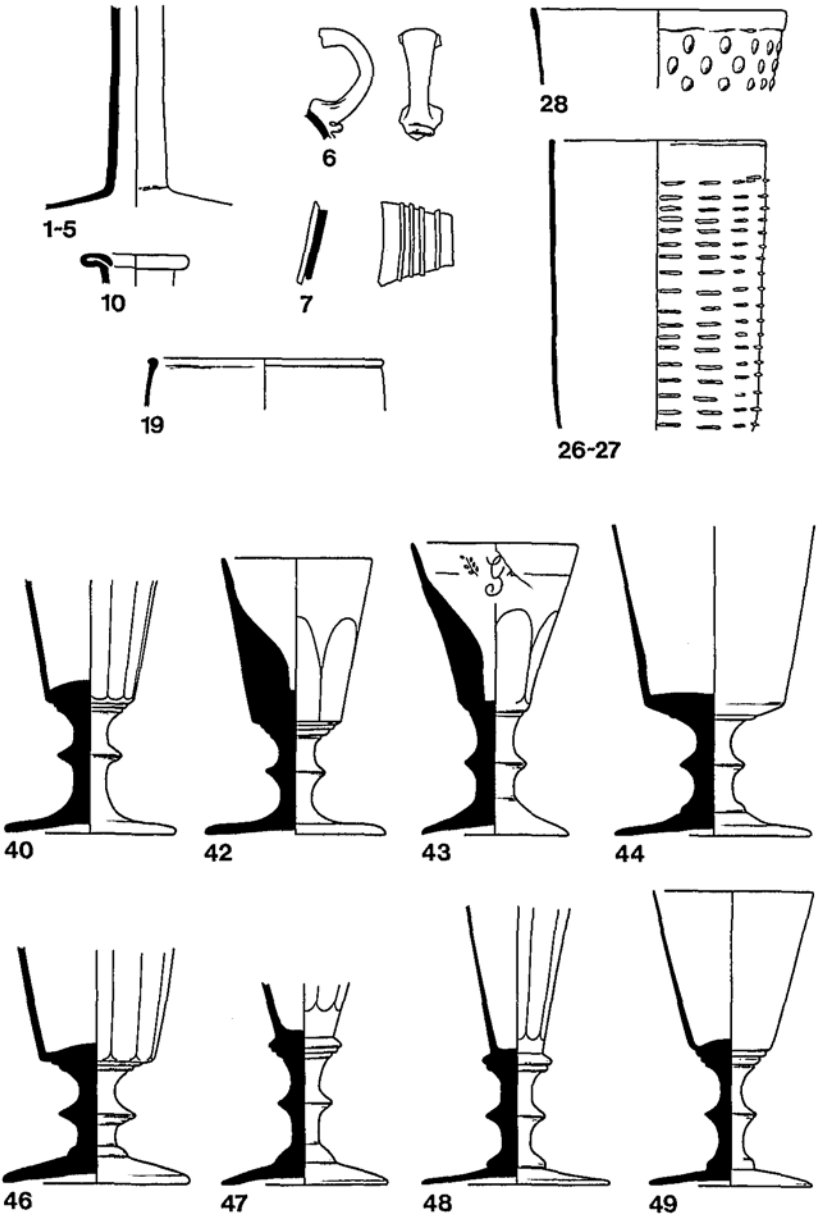

Fig. 35. No. 41 St. Geroge's Street: Glass vessels (Scale: ½).

(355) 3ii Layer in pit 361. *Residual.*

20. Fragment from the base of a bowl or jar of indeterminate form. Free-blown; bluish-green glass. Base slighty pushed in. Late first or second century.
(424C) 1ii Fill of pit 424. *Not illustrated.*

21. Fragment from the side of a bowl or beaker of indeterminate form. Free-blown; greenish-colourless glass. Body decorated with broad, shallow indentations of which just part of one is extant. Probably third or early fourth century.
(516) 2i S1 and fill. *Not illustrated.*

22–23. Two fragments of thin greenish-blue glass from free-blown vessels of indeterminate form. Roman.
(424B) 1ii Fill of pit 424. *Not illustrated.*

24–25. Two fragments of greenish-blue window-glass of the cast matt/glossy variety. Roman.
(424B) 1ii Fill of pit 424, (556) 1ii Layer. *Not illustrated.*

This small Roman assemblage includes vessels primarily datable to the late first and early second centuries (nos. 1–8, 10–18 and 20) with just two which can be dated later to the late second to early fourth century (nos. 19 and 21). Regarding the earlier group, it should be noted that, of the identifiable fragments, the greater majority are narrow necked liquid containers (i.e. flasks and bottles). It might be that this reflects a specific functional feature for glass on this site at that date.

The flasks represented are well-known in Romano-British contexts[89] of the late first and early second centuries as too are the bulbous jars (e.g. possibly nos. 16–18). Fragments from the bodies of these two forms, whether with or without vertical ribbing, are so alike in every detail – thus making precise identification difficult – that without a doubt they were products of the same glasshouses. These appear to have been located mainly in the Seine/Rhine region.[90] However, recent research has shown that glasshouses in this country were producing such vessels, especially the jars. At Mancetter, Warwickshire, waste pieces from the rims of such jars were found amongst the other residue from a glassworking and blowing site of the early to mid second century (pers. comm. J. Price and H. Cool). Also, at 2–3 Cross Keys Court, City of London[91] an apparently waste

[89] J. Price, 'Trade in Glass', in (Eds.) J. du Plat Taylor and H. Cleere, *Roman Shipping and Trade: Britain and the Rhine Provinces*, C.B.A. Research Report xxiv, (1978), 74.

[90] *Ibid.*, Fig. 56.

[91] Department of Urban Archaeology, Museum of London, Site Code OPT 81.

fragment from a bulbous bodied vessel with vertical ribs was found in association with other glassworking and blowing waste in dumps dated to the late second century.[92]

As to be expected in any late first- or second-century assemblage, the ubiquitous square-sectioned bottle is well-represented by at least three fragments (nos. 11–13). It is probable that nos. 10 and 14 come from the same form. This vessel type occurs, with some regional variations, across the entire Empire. Their use, primarily, as in-transit liquid containers and subsequently as general domestic vessels or cremation urns makes them the most versatile of any form amongst the Roman glass repertoire.

Sadly, little glass from the later Roman period was recovered, unlike many other sites in Canterbury, especially Marlowe.[93] The small cup or bowl rim fragment (no. 19) probably belongs to the 'Airlie' type cup series[94] well-known in late second- and third-century assemblages. However, some caution must be taken since this rim form was employed for other, comparatively less common types of the same date. Sadly again, the small fragment with indentations does not allow a more precise identification of its form, but such a metal and such rudimentary decoration are in keeping with third- to early fourth-century styles.[95]

THE MEDIEVAL AND LATE MEDIEVAL GLASS

26–27. Two fragments from the rim and side of a beaker. Optic blown and free-blown; colourless glass with a greenish tint. Rim fire rounded, slightly thickened. Body decorated, by optic moulding and applied decoration, with a thin spiral trail of the same metal broken by mould-blown vertical indentations. Late sixteenth or seventeenth century.
(31) 5 Pit.

28. Fragment from the rim of a beaker. Optic blown and free-blown; greenish colourless glass with slight surface decomposition. Fire-rounded and slightly thickened rim.

[92] J.D. Shepherd and F. Grew, *Glassworking and Glass-blowing in Roman London*, (forthcoming).

[93] J.D. Shepherd, 'The Glass', in *The Archaeology of Canterbury*, vol. v, (forthcoming).

[94] D. Charlesworth, 'Roman Glass in Northern Britain', *AA*[4], xxxvii (1959), 44–6, Pl. i.4.

[95] J.D. Shepherd, 'Roman Glass', in B. Cunliffe and P. Davenport, *The Temple of Sulis Minerva at Bath*, Oxford University Committee for Archaeology, Monograph no. 7, (Oxford, 1985), 163, nos. 31–4.

Body decorated with mould-blown relief ovals, vertically orientated, in diaper. Late fifteenth to seventeenth century.
(114) 5 Pit.

29. Small fragment of a beaker or flask. Optic blown and free-blown; greenish colourless glass with slight surface decomposition. Body decorated with a 'wrythen' pattern (spirally twisted relief and close set ribs). Late fifteenth to seventeenth century.
(73) 4i Layer. *Not illustrated.*

30–31. Two fragments of greenish colourless glass with deep surface decomposition from vessels of indeterminate form. Medieval.
(17) 4ii Pit, (73) 4i Layer. *Not illustrated.*

32–38. Seven fragments of window glass, greenish colourless glass with deep surface decomposition. Medieval.
(17) 4ii Pit, (105) 4i Pit, (358) × 2, 3ii Pit fill, (275) × 3, 3ii Pit fill, (286) 3ii Layer within pit. *Not illustrated.*

39. Fragment of window glass. Greenish colourless glass with a slight surface decomposition. Medieval.
(17A) 4ii Pit. *Not illustrated.*

The optic blown vessel with relief ovals in diaper (no. 28) is a common sixteenth- and early seventeenth-century type and has parallels in Canterbury at Marlowe,[96] Cakebread Robey[97] and Linacre Gardens.[98] Likewise, the wrythen vessel (no. 29), whether it be a flask or beaker, is also well-known (e.g. beakers at Marlowe, nos. 30 and 31).[99] Wrythen bottles come also from Marlowe (nos. 5, 6 and 7) and other late fifteenth- to early seventeenth-century contexts.[100]

[96] See note 93 above, nos. 537–541.

[97] J.D. Shepherd, 'The Glass', in *The Archaeology of Canterbury*, vol. vi, (forthcoming), no. 82.

[98] J.D. Shepherd, 'The Glass', in *The Archaeology of Canterbury*, vol. iv, (forthcoming), no. 231.

[99] See also R.J. Charleston, 'Medieval and post-medieval Glass from the north-west Quadrant', *in* A. Down, *Chichester Excavations*, v (Chichester, 1981), 227, Fig. 8.55 nos. 32, and R.J. Charleston, 'The Vessel Glass from Rosedale and Hutton', in D.W. Crossley and F. Åberg, 'Sixteenth Century Glassworking in Yorkshire', *Post-Med. Arch.*, vi (1972), 144, Fig. 64. nos. 78–9.

[100] For example, London, I. Noël Hume, 'Medieval Bottles from London', *Connoisseur*, March (1975), 106, nos. 5 and 6; Basing House, R.J. Charleston, 'The Glass', in S. Moorhouse, 'Finds from Basing House, Hampshire, *c.* 1540–1643, Part II', *Post-Med. Arch.*, v (1971) 66, Fig. 28 nos. 28–9, Chichester, Charleston 1981, see note 99 above, 224, Fig. 8.54 no. 11.

The beaker with a broken spiral trail (nos. 26–7) is essentially manufactured in the same way as 'chequered spiral' glasses,[101] but can be grouped apart from this latter series of vessels on account of the thinness of the trail. Similar vessels occur in Canterbury at Marlowe (no. 25) and Cakebread Robey (no. 81). In discussing examples found at Rosedale, Charleston notes that these vessels do not occur in the repertoires of the glasshouses of the Sussex–Surrey (Weald) area.[102] The metal of this example from St. George's is certainly not a Wealden product and so this, too, as was probably the case with the examples from other sites in Canterbury, was imported from outside the region of the south-east. Whether it is an English or Continental product cannot, presently, be deduced.

THE POST-MEDIEVAL GLASS

The post-medieval glass assemblage consists of bottles and drinking vessels from two main contexts; the masonry lined cess-tank (7), which contained a dump of bottles dating to the late seventeenth and early eighteenth centuries, and an adjacent masonry lined cess-tank (6), which contained a rubbish deposit, presumably a house clearance, consisting of mid to late nineteenth-century bottles and an assemblage of drinking vessels dating from the 1830s or 1840s. All are catalogued below, but the descriptions and details for the bottles are slight. It is hoped that at a later date the nineteenth-century assemblage might be examined in more detail for such deposits are scarce in the archaeological record. I am grateful to Miss Wendy Evans of the Museum of London for giving additional comments on the origin, date and intrinsic importance of the nineteenth-century group.

Drinking vessels

The following forty-one vessels and fragments (nos. 40–80) come from a minimum of twenty-six drinking vessels of the fourth and fifth decades of the nineteenth century. There are sixteen stemmed glasses, five Rummers and five tumblers. All are in a good quality colourless metal with fire polished rims and foot lips.

[101] H. Tait, 'Glass with chequered spiral-trail Decoration – A Group made in the Netherlands in the sixteenth and seventeenth Centuries', *Journ. Glass Studies*, ix (1967), 94–112.

[102] Charleston 1972, see note 99 above, 137, Fig. 60, 19 and 20.

Nos. 40–80 all from (6) 5 masonry lined cess-tank.

40. Five piece stemmed glass (bowl, two thin wads between bowl and stem, a double waisted stem, with a bladed knop, foot). Decorated with ten cut flutes. Rim missing. Similar to an Apsley Pellatt no. 91 'Coburgh', but with some variations.[103]
41. As for no. 40. *Not illustrated.*
42. Four piece stemmed glass (bowl, one wad, double waisted stem, foot). Six broad cut flutes. Deceptive measure. No precise Pellatt parallel exists.
43. As for no. 42. Slightly larger. Decorated with an incised monogram (incomplete) of which just a G survives in a wreath. Rim missing.
44. Four piece stemmed glass (bowl, wad, double waisted stem, foot). Plain bucket bowl. No precise Pellatt parallel.
45. As for no. 44. *Not illustrated.*
46. Five piece stemmed glass (bowl, two wads, double waisted stem, foot). Eleven broad cut flutes. Similar to Pellatt no. 89 'Princess',[104] but on a different stem type.
47. Five piece stemmed glass (bowl, annular merise, wad, double waisted stem, foot). Ten narrow cut flutes on a flute bowl. No precise Pellatt parallel.
48. Similar to no. 47, but eleven narrow flutes on a slimmer flute bowl.
49. Five piece stemmed glass (bowl, two wads, double waisted stem, foot). Plain bowl.
50. Five piece stemmed glass (conical bowl, annular merise, wad, double waisted stem, foot). Ten cut flutes on bowl.
51. The base and stem with just a part of the bowl of a stemmed glass. Five piece (bowl, two thick wads, double waisted stem, foot).
52. The plain conical bowl from a vessel probably as no. 50.
53. Seven piece stemmed glass (bowl, two wads, flattened wad between two single waisted stems to give an annulated knop, foot). Body decorated with a fine foliate frieze below the lip.
54. Three piece stemmed glass (bowl, ball stem, foot). Similar to Pellatt no. 88, but with a ball stem.[105]

[103] H. Wakefield, 'Early Victorian Styles in Glassware', *Studies in Glass History and Design* (Papers read to the Committee B sessions of the VIIIth International Congress on Glass, London, July 1968), 52. See note 107, below, for the relevance of this parallel.

[104] *Ibid.*, 52.

[105] *Ibid.*, 52.

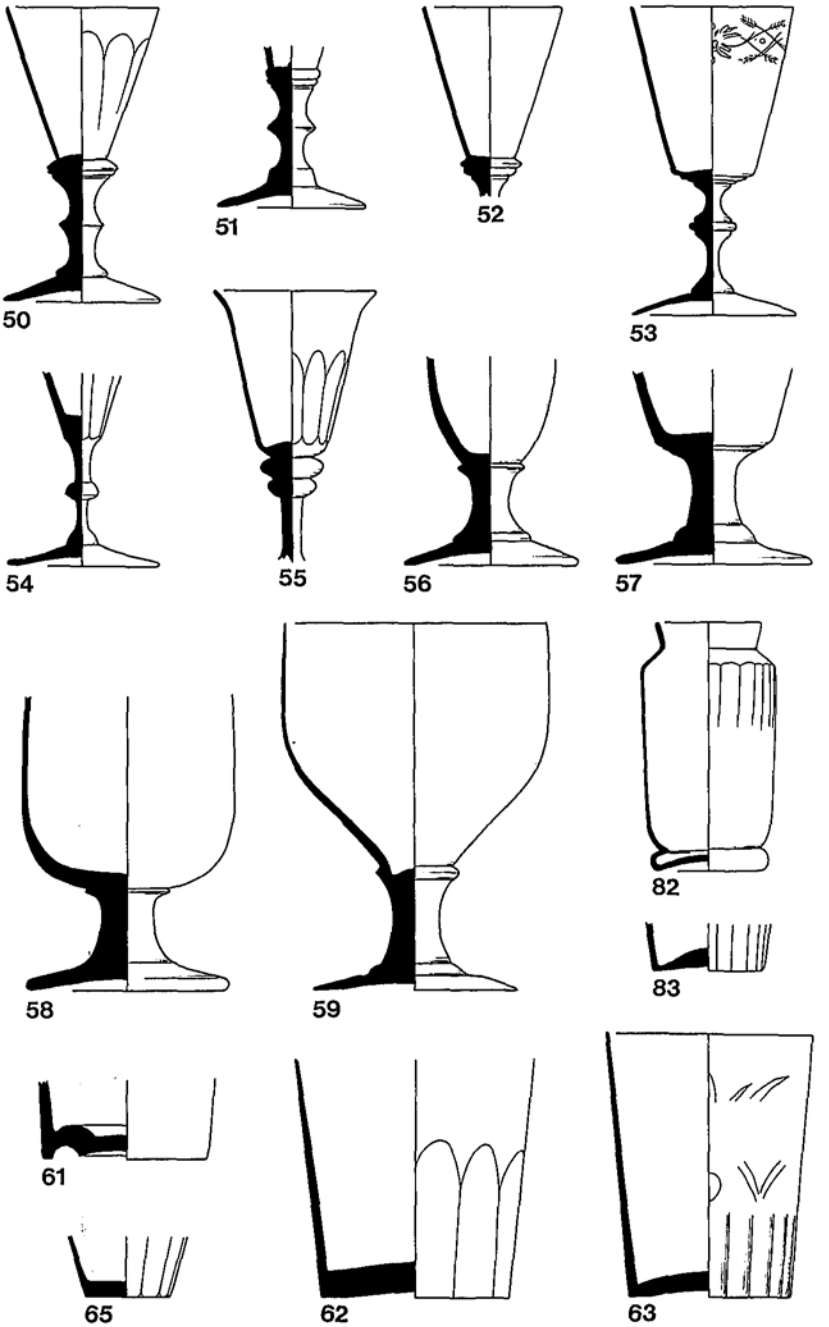

Fig. 36. No. 41 St. George's Street: Glass vessels (Scale: $\frac{1}{2}$).

55. At least three piece stemmed glass (bell-shaped bowl on flattened knop all on a ball knop and drawn stem). Ten cut flutes. Similar to Pellatt no. 98 'New Tulip', but on different stem.[106]
56. A three piece Rummer (plain tall round funnel bowl, thick single waisted stem, foot).
57. A three piece Rummer (bucket bowl, waisted stem, foot).
58. A three piece Rummer (large) (large round funnel bowl on a very thick waisted stem and foot).
59. Large three piece Rummer (bowl with large rounded carination, waisted stem, foot).
60. As for no. 59. *Not illustrated.*
61. Tumbler. Plain with a thick base. Base decorated with a concave disc (? ground) within a moulded multi-ribbed groove.
62. Tumbler. Decorated with eleven cut flutes. Similar to Pellatt no. 83 'Strong fluted', but without the moulded bottom
63. Tumbler. Decorated with a narrow pillar-moulded design. Base moulded with an incuse twelve pointed star. Body also decorated with wheel-cut free floriate design. Pillar moulding consists of twelve pillars.
64. As for no. 63. *Not illustrated.*
65. Just the lower part of a ?small tumbler (possibly part of a cruet). Decorated with twelve narrow flutes.
66–80. Fifteen fragments of colourless glass from the above vessels. (i.e. nos. 40–64). *Not illustrated*
81. Small fragment from the rim of a goblet. Rim folded over and outwards. Late seventeenth or early eighteenth century. (5) 5 Pit. *Not illustrated.*

The forty-one fragments and vessels belonging to the fourth and fifth decades of the nineteenth century are an interesting group and one rarely encountered. The shapes and styles of glass vessels during this period are fairly universal and style names were adopted generally by manufacturers. In the above descriptions I have referred to the glass manufacturer Apsley Pellatt. He was a well-known London glass-maker based at the Falcon glasshouse, Southwark, and it is not surprising to find, in one of his trade catalogues, that vessels such as those found on this site were among his repertoire.[107] There is no evidence at all, however, that these are the products of the Falcon glasshouse.

[106] *Ibid.*, 52.

[107] *Ibid.*; such catalogues were included in the advertisements section of various publications in the 1830s and 1840s.

Regarding the actual assemblage, it is interesting to note that a number of pairs occur. This certainly suggests that this is a dump from one particular household. However, the evidence from the associated bottles suggests a late nineteenth-, possibly even early twentieth-century date for the deposition as a whole. In which case these glasses were over fifty years old when discarded – a probable indication of their comparatively low intrinsic value at that time. It is hoped that this assemblage will be the subject for a more detailed study at a later date.

PHARMACEUTICAL PHIALS

82. A pharmaceutical phial (or cruet). Mould-blown, colourless glass. Body decorated with slight vertical mould-blown ribbing which fades towards the base of the vessel. Folded foot. Nineteenth century.
(6) 5 Masonry lined cess-tank.

83. Small phial or cruet. Decorated with mould-blown fine vertical ribs. Nineteenth century.
(6) 5 Masonry lined cess-tank.

The above two vessels were associated with the glasses described above. Their identification as pharmaceutical phials is tentative.

84. The upper part of a pharmaceutical phial of common form. Late seventeenth or eighteenth century.
(5) 5 Pit. *Not illustrated.*

Square bottles

85–89. Five fragments from the upper part of a square bottle. Mould-blown greenish colourless glass with a slight surface decomposition. Late sixteenth or seventeenth century.
(5) 5 Pit. *Not illustrated.*

90. Fragment from the rim and neck of a vessel as for nos. 85–89.
(5) 5 Pit. *Not illustrated.*

91. Fragment from the base of a vessel as for nos. 85–89.
(5) 5 Pit. *Not illustrated.*

92–100. Nine fragments from the bodies of vessels as for nos. 85–9.
(5) 5 Pit. *Not illustrated.*

Such square bottles occur in Canterbury at Linacre Gardens (nos. 251, 273–83) and Cakebread Robey (nos. 99–100).[108] For

[108] *The Archaeology of Canterbury*, vols. iv and vi, respectively, both forthcoming.

further parallels from Basing House, Hampshire, Sidney Wood, Alfold and Buckholt, Hampshire, see Charleston 1971, 68, Fig. 29. nos. 48–9.[109]

Bottles

As to be expected, the common 'English' wine bottle is very well represented (in excess of forty examples from the masonry lined cess-tank (7) alone). Their full publication here would be repetitive. There follows, therefore, a summary of the main groups and a list of fragments. In addition to the earlier 'English' bottles, a large quantity of late nineteenth-century ale bottles was also recovered (from (6) – see 'Drinking glasses', above). These are merely listed. None are illustrated.

101–369. Two hundred and sixty-nine fragments and complete vessels representing common 'English' wine bottles were recovered. The earliest dates to the late seventeenth century (no. 101) with an unidentifiable seal of a shield.[110] All of the remainder (at least thirty examples) belong in the main to types more common in the early eighteenth century.[111] In addition nine half measures of similar form and date were recorded (no. 103) and two large measures (no. 104) of which only the lower parts survived. Two hundred and thirty fragments from the above types were recovered.
(7) 5 masonry lined cess-tank. *Nos. 101–104 illustrated.*

370–84. All the bottles were machine mould-made with distinctive mould seams. Five large measure and two half measure cylindrical 'Ricketts' type bottles were recorded in dull brown and green glass. Two thin-walled mineral or spa (possibly Continental wines) with tapering necks were noted. In addition five 'Hamilton' type bottles were noted; two (one fragmentary) with moulded inscription 'AERATED WATERS/SOLD BY R JOHNSTON/15 GREEK ST LONDON/ HAMILTON'S PATENT', one with 'WILLIAMS AND VEALE, LONDON', one with 'BEANS WATER', one with 'WILLIAMS MAYO/LATE/GRUCHY & MAYO'S/CELEBRATED/SODA WATER/17 SILVER STREET/CITY/LONDON/ESTABLISHED 1808'. Finally,

[109] Charleston 1971, see note 100, above.
[110] For example, I Noël Hume, *Guide to Artefacts of Colonial America* (New York, 1976), Form 1/2.
[111] *Ibid.*, no. 102, Forms 4/5,8,9,10.

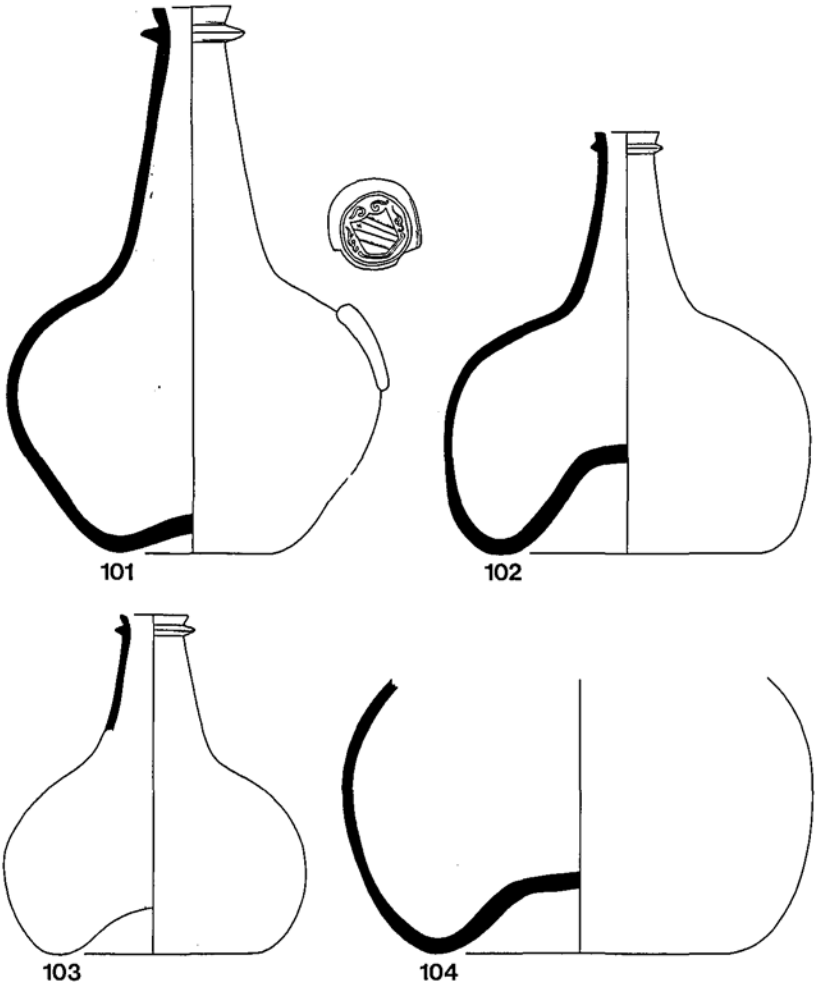

Fig. 37. No. 41 St. George's Street: Glass vessels (Scale: ½).

a mould-blown 'Kilner'/storage jar was noted square with chamfered angles and a high domed base.
(6) 5 masonry lined cess-tank. *Not illustrated.*

Unpublished glass fragments: Seventy-five fragments of post-medieval bottle glass from Period 5 contexts; fifteen fragments of indeterminate post-medieval vessel glass from Period 5 contexts and one from a Period 1ii layer; twenty-eight fragments of post-medieval window glass from Period 5 contexts.

D. The Evidence for Bell-Founding and other Metalworking Activities

Paul Budd, B.Sc.

INTRODUCTION

A total of about 75 kg. of material excavated from the St. George's Street site in Canterbury in 1985 was submitted for examination and analysis. The bulk of the material was fired clay and copper alloy wastes, ranging from fuel-ash slags to dense nodules of corroded metal. Most of the material originated from two contexts (97 and 97A) associated with a feature interpreted as a metal melting furnace and dated to the late twelfth century. About 25 kg. of material, suspected of containing metalworking slag, and originating from a working floor within a building (Structure 2A) dated to the first half of the ninth century, was also examined. Also submitted were a number of sherds thought to be from metalworking crucibles; these came from a number of contexts which both pre- and post-dated the furnace (see Table 2, p. 169).

THE NINTH-CENTURY MATERIAL

The ninth-century material (from context 376) originating from the working floor within Structure 2A was examined. However, no metalworking slag was found and no significant quantities of fired clay (indicating high temperature processes) were detected. Domestic occupation debris would seem to be the most likely origin for this deposit. The material contains charcoal flecks and animal bones. The green/brown colouration may indicate elevated phosphorous levels. A somewhat deceptive appearance has been created by the concretion of the material into lumps of iron panning. Possibly, this may be a result of local drainage abnormalities. The material offers no direct evidence of technological activity.

ANALYSIS OF THE COPPER ALLOY WASTE

A total of sixty-two samples of copper alloy waste from fifty contexts were analysed qualitatively by X-ray fluorescence (XRF), including five from context 97 and six from context 97A. It was hoped to determine what alloys were present and whether or not a homogeneous group was represented. In every case where the alloy could be identified with confidence the metal was a bronze. In the four cases where the interpretation was less certain the metal was

probably either a 'pure' copper with traces of lead or a copper-lead alloy (e.g. from context 28 a Period 4ii layer). The majority of the samples analysed (thirty-seven out of sixty-two) have been tentatively interpreted as high tin bronzes. A further ten samples displayed very strong signals for tin suggesting even greater levels of the element in their compositions (perhaps even over 20 per cent). The XRF results for the remaining eleven samples suggested that these were rather lower tin bronzes, perhaps containing a few per cent of tin. However, this variation in copper: tin signal strengths may indicate variation in the degree of corrosion as much as the original composition of the metals.

All of the samples analysed contained detectable amounts of lead although only in four cases (with widely varying tin contents) was the lead signal sufficiently high to suggest that the element may have been a deliberate addition to the alloy. Ten of the samples contained detectable levels of zinc, but in no case was this element considered to be present in significant quantities. One sample (a piece of corroded bronze casting waste from context 34, a Period 4ii pit fill) contained detectable levels of antimony.

THE FIRED CLAY

The great majority of the fired clay (approximately 35–40 kg.) originated from the two contexts 97 and 97A. The material ranged from small fragments to large pieces up to 2 kg. in weight. Virtually all of this material was of the same porous, low density, fabric which would have contained a high proportion of finely divided vegetable matter prior to firing, possibly added to the clay in the form of animal dung. The majority of pieces are oxidized fired to a light orange/brown; however, many have a thick (1–4 cm.) black, reduced fired layer extending from one surface.

Numerous pieces of the fired clay display original surfaces, some of which were roughly shaped by hand. A number, however, have very smooth and precisely shaped surfaces, some covered by a fine white-firing clay slip, which are interpreted as fragments of the inner surface of a large mould. One of these pieces is particularly characteristic, and is thought to be a rim fragment from the core portion of a bell-casting mould. The fragment is not sufficiently complete for an accurate assessment of the diameter of the bell being cast to be made, but the curvature suggests a rim diameter within the range of 50–70 cm. The shapes of the other mould fragments in context 97 are not particularly diagnostic, but the gently curves they display indicate that they may well be parts of the cope (i.e. outer part) of the mould.

Nine samples were taken from the six contexts which had produced

mould fragments and their original interior surfaces were analysed qualitatively by XRF to see if traces of the metal being cast had survived. The results were rather unsuccessful as the survival of metal traces on the mould surfaces was poor. All of the samples had traces of copper, but only in one case (the characteristic core rim fragment) could the nature of the alloy be suggested; it was probably a bronze.

THE EVIDENCE FOR BELL-FOUNDING

The uniformity of the fabric of the fired clay material and of the compositions of the copper alloy wastes indicated by the XRF results strongly suggests that the majority of the material submitted originated from a single industry, or even a single industrial activity. It should be noted that virtually all of the copper alloy waste came from a few contexts, most of it from 97 and 97A (see below), whilst the bulk of the fifty contexts from which material was taken have produced a few small fragments of slag or casting waste, quantities which might well have been redeposited. The indications are that the activity represented was bell-founding similar to the '*cire-perdue*' technique described by Theophilus.[112]

The predominance of high tin bronzes amongst the analysed metal waste is indicative of bell-founding. The casting of other large objects such as cauldrons would involve the use of large moulds, but the use of cheaper, lower tin and leaded tin alloys would be expected.[113] Adding lead to an alloy intended for bell-casting or reducing its tin content would have a detrimental effect on the tone of the finished bell.

The fired clay described above is of a very similar fabric to material interpreted as bell-mould fragments from a number of medieval sites.[114] Bayley[115] has pointed out the advantages of such a fabric for the production of moulds for casting large objects, the elasticity of the fabric preventing the cracking of the casting following its rapid contraction on cooling.

[112] J.G. Hawthorne and C.S. Smith, *Theophilus: On diverse arts*, (New York, 1979).

[113] R.F. Tylecote, *A History of Metallurgy*, (London, 1976).

[114] H.B. Duncan and S. Wrathmell, 'Bell moulds from Kirkstall Abbey, West Yorkshire', *Historical Metallurgy*, 20 (1), (1986), 33–5; P. Wilthew, 'Examination of the Evidence for Bell Founding and other technological Activities from Trench 2, Thetford, Norfolk', *Ancient Monuments Laboratory Report* 23/86, (1986).

[115] J. Bayley, 'The evidence for Metalworking from Christ Church College (St. Augustine's Abbey), Canterbury', *Ancient Monuments Laboratory Report* 4647, (1985); see also *Arch. Cant.*, ciii (1986), 115–17.

The feature represented by the two contexts 97 and 97A was intrepreted by the excavators as a metal melting furnace, and there is a good deal of evidence to support this theory. Much of the fired clay associated with the copper alloy slag is deeply vitrified suggesting a prolonged exposure to high temperatures such as might be expected in a large furnace rather than a small hearth. Many of the fragments of fired clay with original surface represented could not be plausibly interpreted as parts of the exterior surface of a bell-mould. It is more likely that this material originated as part of the furnace superstructure, which may also have incorporated tiles that were found in the same context. Further support for the existence of a furnace is added by the remains of two large *tuyères* 30–40 mm. in diameter found within two of the larger masses of a copper alloy slag.

It seems fairly clear from the nature of the fired clay material and the composition of the alloy being worked that a furnace was in use on this site to melt the metal required for the casting of a bell. The close proximity of the metal melting furnace and the bell-casting pit would be a practical requirement and, although no direct evidence of such a pit was found by the excavators, the furnace remains lie close to the edge of the excavated area and a casting pit could lie just outside.

The following table summarises the nature of the material submitted from contexts 97 and 97A. It is extracted from the full list of all samples analysed which is held in the excavation archive.

TABLE 1

Context	Description
(97) 3iv	3–4 kg. of highly metallic slags and casting waste mostly from the working of high tin bronze (some very high tin), some of which may be leaded. Also some relatively pure copper. 7–8 kg. of fired clay some of which is part of a bell mould and some of which is part of a furnace structure. Some of the clay has bronze and bronze-working slags attached and is probably furnace lining.
(97A) 3iv	6–7 kg. of metallic slags and casting waste probably from the working of high tin bronze. About 30 kg. of fired clay, the majority of which is unvitrified and is probably part of a furnace structure, although some of it may originate from the bell mould. Also includes a number of pieces of tile.

ANALYSIS OF THE CRUCIBLE FRAGMENTS

A number of sherds from various contexts suspected of having originated from metalworking crucibles were also submitted for

investigation. These were analysed qualitatively by XRF in order to attempt to determine what alloys were being worked. The results are presented in Table 2 (below). Two pieces of metal were also submitted with the crucible material, both were irregular 'dribbles'; one was found to be lead and the other a fairly pure copper with traces of zinc and lead.

All of the sherds were reduced fired to various shades of light grey, a few also have added outer layers of less refractory clay (a fairly common practice from the Roman period onwards). All but two of the sherds analysed may have been used as crucibles since they are of fairly refractory fabrics (low iron clays, highly tempered with relatively coarse quartz grains in the majority of cases). Also many are partially vitrified on their exterior surfaces. (although it is possible for this to result from overheating in a pottery kiln), some with the distinctive red colouration indicating the presence of copper.

Most of the sherds display some degree of concentric ribbing on their interior surfaces indicating the vessels were wheel-thrown. Some have evidence of pinched-out pouring lips. The predominant form is bag-shaped or hemispherical with a maximum diameter of about 10–12 cm. and a rim diameter of about 8–9 cm., typical early medieval forms. There is one virtually complete example of this type (S.F. no. 395); however, the XRF results suggest that this example was not used for metalworking. Its sooty appearance may indicate that it was used as a lamp.

Of the non-metalworking ceramic material included in the group the sherd comprising of S.F. nos. 331, 337 and 338 is the most interesting. The inside of this sherd is covered by a layer of naturally-coloured glass which, from its smoothness and uniformity, seems to have been deposited and not produced as a result of vitrification of the sherd fabric. The sherd comes from a rather larger vessel, 17 cm. or more in diameter, and glass melting rather than metalworking is suggested as a likely use for this vessel. The strength of the non-ferrous metal signals from this sherd is, therefore, rather curious.

In general, the results of the analyses are inconclusive since the survival of traces of metal on the crucible sherds is poor. Where the more volatile metals, lead and zinc, were the only ones detected the analytical results were non-diagnostic. In the majority of cases traces of copper were detected. In most cases where copper was detected the crucibles were most likely to have been used for the melting of copper alloys, possibly brasses. In one case the alloy represented is a bronze.

Silver was positively identified on three of the sherds and these can fairly confidently be associated with silverworking. In these cases

TABLE 2. RESULTS OF XRF ANALYSIS OF CRUCIBLE FRAGMENTS

Period	S.F. No.	Sherd type	Cu	Zu	Pb	Sn	Ag	Material melted	Context
3ii	353	R		++				?	(68) Pit
3ii	363	B	+				++	Silver	(68C) Layer in pit
3ii	354	R		++				?	(78C) Pit
3ii	427	B	+	++	+			? Brass	(236) Pit
3ii	465	B		++				?	(239) Pit
3iii	339	R/L		++				?	(203) Layer
3iii	426	R		++				?	(216) Layer, S3
3iii	429	B		+				?	(223) Layer, S3
		B	+	+++				? Brass	
3iii	336	R		++				?	(223) Layer, S3
3iii	331, 337							? Glass	(203) Layer and
	and 338	B	+++	+	++	++		melting	(223) Layer, S3
3iii	395	C						Not used	(240) Floor, S3
3iii	430	R/L	+	++				? Brass	(240) Floor, S3
		B(OL)	+	++	+			? Brass	
		B	+	++				? Brass	
3iv	348	L(OL)	++		+	+++		Bronze	(97) Furnace
4i	352	R	+	+++				? Brass	(64) Pit and fill
		B	+	++				? Brass	
4i	319	R	+	+++				? Brass	(64) Pit and fill
		B	+	++				? Brass	
4i	356	B(OL)	++	++	++		++	Silver	(95) Pit and fill
		B	+	+				?	
4i	558	B		+	+			?	(146) Pit and fill
		B			++			?	
		B		+	++			?	
4i	428	B	+	+				? Brass	(215) Pit and fill
4i	425	B	+	++			++	Silver	(228) Layer
		B	+	++	+			? Brass	
		B	+	+				?	
		B	+	+				?	
		B		+				?	
5	357	B	+	+				?	(1) Machine work

Sherd types: C – Complete
B – Body sherd
R – Rim sherd
L – Displaying pinched out lip
(OL) – Outer layer of clay added

Key: + Detected
++ Significant
+++ Major

copper is present probably either as an impurity or deliberate debasement. It should be remembered that silver gives only a weak XRF signal and that, if silver were present at too low a level to be detected, the analytical results for a silverworking crucible could look deceptively like those interpreted as copper alloy working.

Clearly the technological activity represented by these crucible fragments is not on the scale of the bell-founding operation. The most likely interpretation of the crucible material is of small scale metalworking in the medieval period, involving silver melting and probably the melting of copper alloys. The metalworking activity spans a long period, covering the period from 2i to 4i, suggesting a continuity of skilled metalworkers in the St. George's area.

The contexts of the crucibles and metalworking waste are discussed below.

THE SIGNIFICANCE OF THE INDUSTRIAL WASTE (P. Blockley)

It now remains to show how the industrial waste relates to the structural evidence recovered from the excavation. Many of the notes below rely on the analyses of casting waste and fuel ash slag carried out by Paul Budd, of the Ancient Monuments Laboratory, full details of which are retained in the excavation archive.

Period 1i contexts yielded numerous fragments of burnt daub and slag. The absence of structures suggests that this had been introduced during rubbish dumping along the edge of the Roman town. The burnt daub appears to have come from destroyed ovens.

Period 2i stratigraphy only produced small quantities of slag. However, many Period 2ii contexts yielded fragments of slag. Although several pieces were from the stratigraphy associated with Structures 2A and 2B, the quantities were insufficient to demonstrate conclusively that it was a by-product of the processes being carried out in those buildings. Burnt daub from contexts associated with Structures 2A and 2B was associated with the destruction of hearths and ovens. Period 2ii, therefore, marks the commencement of an 'industrial' tradition to the area, around the early ninth century, which was to continue until the bronze melting furnace of *c.* 1175 during Period 3iv.

A similar impression is presented during Period 3i where occasional slag lumps are associated with stratigraphy relating to the working surfaces within Structure 2C. Period 3ii stratigraphy yielded many scattered slag lumps, and burnt daub fragments, some of which had vitrified surfaces indicative of high temperature firing ovens. Fragments of metallic slags and casting waste which were analysed were shown to be of a high tin-bronze composition. Five

crucible fragments were also submitted for analysis (p. 169, Table 2). All of these came from the backfill of pits. That from pit 78 contained a silver trace suggestive of silverworking (p. 168). The slag and burnt daub of this period must relate to structures beyond the excavated area, but points to a continuation of industrial tradition in the area.

Period 3iii, although represented by little intact stratigraphy, produced nine fragments of crucible, very little slag and only one context (floor 240) yielded a significant quantity of burnt daub. Floor 240 of Structure 3 yielded one complete unused crucible, three fragments of crucible with ?brass working traces (Table 2), a few fragments of high tin bronze casting waste and fuel-ash slag. The other crucible fragments came from layers associated with Structure 3, which taken together with the burnt clay, strongly indicates an industrial function for this building.

Period 3iv saw the construction of a bronze melting furnace. The backfill of this feature included much high-tin bronze casting waste, some of which was relatively pure copper (p. 167). Many fragments of inner and outer mould, possibly from a bell-casting procedure, were also located in the backfill. These are discussed in detail by Paul Budd (p. 167).

Period 4i stratigraphy produced fifteen crucible fragments, ten of which came from the levelling deposits over earlier pits (Table 2). The others were scattered in later pits. Samples of slag were analysed at the Ancient Monuments Laboratory and were found to consist largely of high tin bronze casting waste. Although some of this slag may have originated from Period 3iv contexts, much was contained within contexts which did not disturb stratigraphy relating to the furnace. The number of crucibles recovered from these contexts also suggests that these industrial remnants were introduced during rubbish dumping from areas outside the excavation.

No crucible fragments were located from Period 4ii contexts, although numerous fragments of high tin bronze casting waste were recovered from scattered contexts. Little burnt daub was recovered.

Period 5 contexts yielded mainly residual slag and burnt daub.

We, therefore, see a tradition of metalworking in the area commencing during Period 2ii in the early ninth century and perhaps continuing until the end of Period 4i around the early fifteenth century.

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Roman features cutting natural brickearth, looking north-west.

PLATE II

Structure 1, sunken-featured-building Period 2i, plan view.

PLATE III

Structure 2C, pebble working floor, Period 3i, looking south-east

PLATE IV

The bronze-melting feature, Period 3iv, looking east

PLATE V

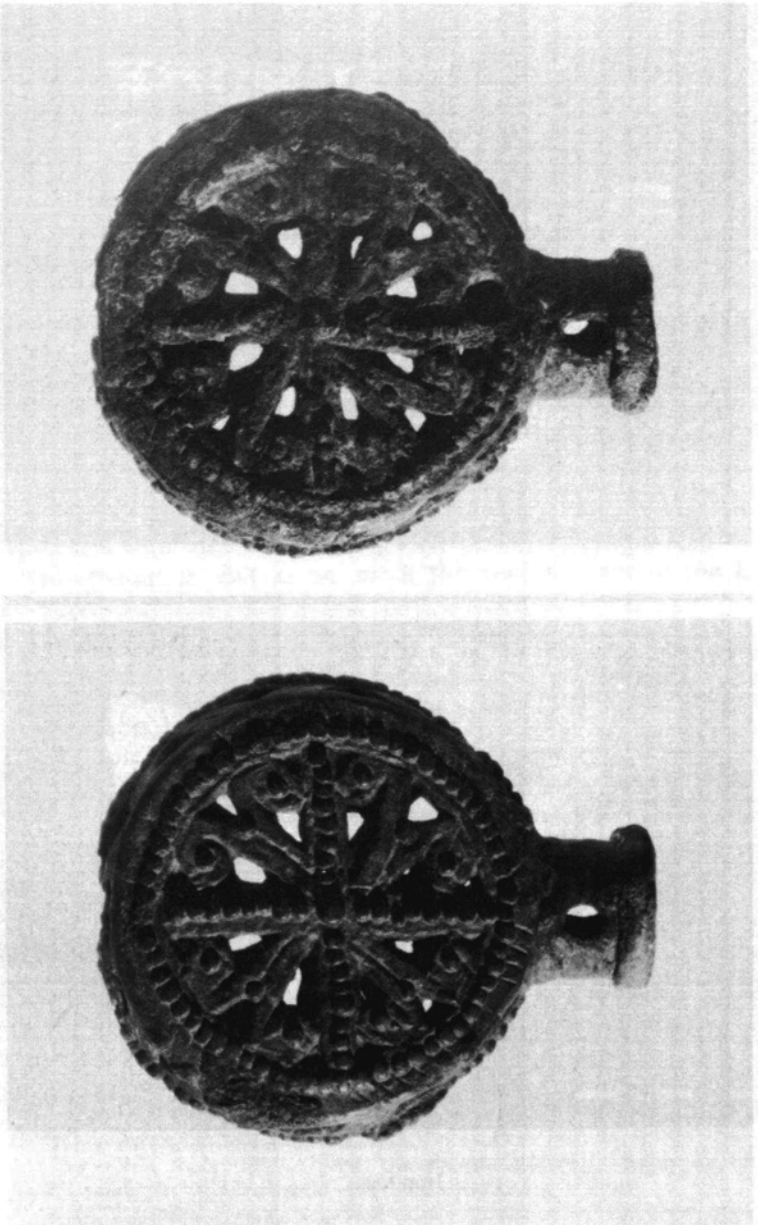
Structure 5A, the bakehouse, Period 4ii, plan view.

PLATE VI

Maiolica bowl, *c.* 1580–*c.* 1620.

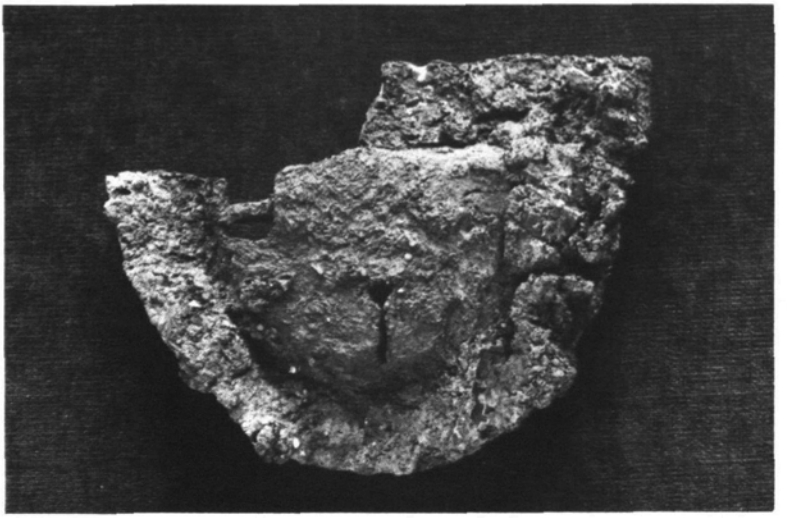
PLATE VII

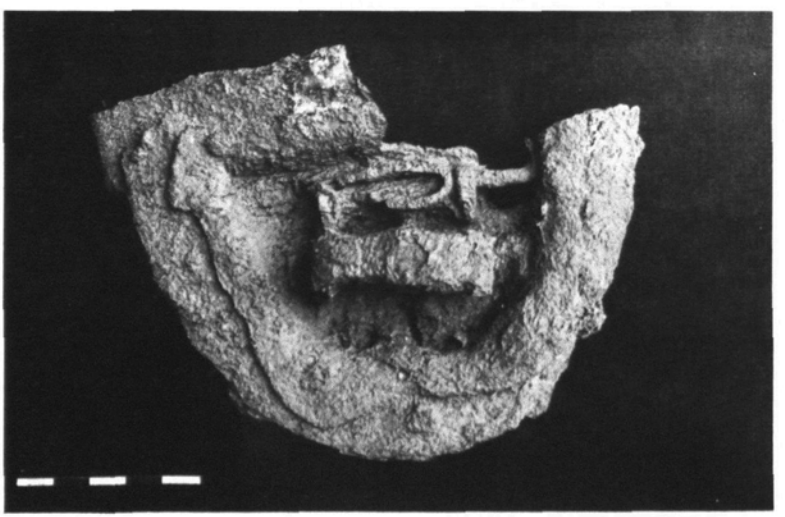
Silver coin of William I, *c.* 1083–87.



Copper alloy mace-head. Eleventh–twelfth century.

PLATE IX





Iron lock.